# Consulting the Supply Chain

## Development of Supply Chain Services for the Food Manufacturing Industry

Marije Kerkveld
University of Twente
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Graduation committee
Supervisor: Ir. S. Maathuis
Committee member: Dr. P. Schuur

Principal: Ir. M. Tieman

## Preface

Conducting this research was crucial in order to obtain my Master of Science degree. Besides, the process of the research enabled me to get a grasp of the Malaysian culture and practices for which I am thankful. Most importantly it helped me further develop my analytical skills, it tested my persistence and helped me to establish a better view on the goals I would like to achieve after my studies.

I would like to take this opportunity to thank the people who were supporting me during the research. First of all I would like to express my sincere gratitude to *Mr. Ir. Tieman*, CEO of LBB Teams. He provided me with the opportunity to conduct research for his company. Ir. Tieman had ambitious and specific ideas on the content of the research. Most likely caused by his academic background and extensive experience and interest in supply chains and related subjects he provided additional input, literature on the subject at hand and critical but constructing feedback during the process. I also would like to thank him for his hospitality during my stay in Kuala Lumpur. I hope that this thesis makes a valuable contribution to the future success of LBB Teams.

Many thanks to all the respondents involved in the case study without whose cooperation this thesis would not be possible. In alphabetical order I would like to thank *Mrs. A. van Baal*, export manager nutrition at Nestlé Nederland b.v., *Mr. P. Berkien*, Manager SC Planning EMEA at Herbalife International, *Mr. T. Boekholt*, global supply chain planner at Purac, *Mr. J. de Bruin*, Manager Warehousing & Ordermanagement at Campina Holland Cheese, *Mrs. A. Chevalier*, Logistics Manager at DSM Food Specialties, *Mr. P. Roerig*, Manager Supply Chain at Friesland Foods, *Mr. S. Sinha*, Manager Planning & DSG for South Asia at Givaudan, *Mr. H. de Vries*, General Manager Far East and *Mr. R. van der Putte* from Friesland Foods Domo and *Mrs. D. Wind*, responsible for support in customer service, sales and marketing at Trouw Nutrition HiFeed. I would also like to express my sincere gratitude to *Mrs. L. Hsian-I Hsiao*, PhD student at Wageningen University on 4PL services in food supply chains. Her reflection on my initial results clarified my view on the project.

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I hereby also would like to thank all the 'coffee buddies' I encountered whilst working in the university library. During the short coffee breaks sharing experiences with these fellow students often made me derive to new insights. I want to end with expressing a big 'thank you' to my family for their unconditional support. Even small gestures like lending me their office chair really encouraged and motivated me throughout the process.

Enschede, March 2009 Marije Kerkveld

## Management summary

The aim of this research is to provide a detailed description on which supply chain (SC) services LBB Teams can provide in Asia and to advice on organisational requirements for providing these services. LBB Teams is a small company with a background in consulting and research which operates from Kuala Lumpur, Malaysia. Dutch food manufacturers are the target group of the research. These companies are primarily engaged in producing food for human or animal consumption.

In order to develop a solution a 'new service development' approach is adopted. Having this inductive approach implies that theory is build upon gathered data. The research process starts at goal formulation by LBB Teams. Next primary and secondary data are collected. The obtained data results from an analysis of relevant literature, firm resources, customer design input by qualitative interviews and environmental factors. A concept is derived from this data and tested by interviews with SCM experts in the food manufacturing industry. Then a service is developed which is described in terms of strategy, a business model and operational requirements.

Derived from literature and interviews *management of physical distribution processes* is identified as a viable focus for the new service. When offering this service it could be an option for LBB Teams to operate as a 4PL. By doing so it will conduct operations as an integrator that brings together the resources, capabilities and technology of both its own organisation and other organisations to design, build and run complete supply-chain solutions. Analysis of firm resources however indicates that LBB Teams is not (yet) ready to manage supply chains as a 4PL. Capital requirements and lack of operational experience are the most important limitations of LBB Teams in this respect. Benchmarking also results in the conclusion that LBB Teams will not be able to live up to requirements of a 4PL.
Further, findings from interviews and a macro-environmental analysis reveal opportunities for LBB Teams to advice on a diverse range of SCM processes. For this activity congruity is identified with LBB Teams' core competences in *consulting & research*.

These and other conclusions are modelled and conceptually tested amongst SCM experts. Findings are that the services offered before, during and after purchase are most critical for success. Further LBB Teams' should operate as an integral part of its client's IT-systems. Thus this will enable LBB Teams to function as an extension of its client's organisation.

Further it is concluded that LBB Teams should operate by a focus strategy. It should offer high perceived benefits; i.e. substantial improvement of its clients EurAsia SC processes. This should justify for a price premium. Derived from opportunity identification it is concluded that LBB Teams should target small and medium sized enterprises wanting to distribute or distributing to Malaysia and surrounding countries. It should serve these companies by consulting and physical distribution management services which should evolve around marketing as well as logistical related activities.

The researcher designed a *phase model* whereby LBB Teams should serve its clients. This model enables the establishment of a step-by-step cooperation with the client. Also it provides LBB Teams with the opportunity to develop operational strength and to gather capital. The different phases by which LBB Teams should operate are:

- Phase 1: Consulting & Research solutions for EurAsia SCs
- Phase 2: Project based SCM & improvement
- Phase 3: Contract based SCM & improvement

The following value proposition will hereby be provided to the industry:
*LBB Teams is the service provider which advices, designs, manages and improves product and information flows to and in Malaysia and surrounding countries in order to create exceptional value in supply chains for European and Asian small and medium sized food (ingredient) manufacturers as an extension of their organisation.*

Strategy formulation is followed by a *business model* (BM). In the BM first the individual elements of the three-phased-service are mapped. Further it presents a blueprint which depicts LBB Teams positioning in its customer's value chain whilst offering its services.
Conclusions are that *phase 1* services have the least implications for the customer's value network. By offering these services a good reputation can be established which will enhance opportunities for offering *phase 2* services. When offering *phase 2* services LBB Teams will not only retrieve information from the value network, but also act as an intermediate whereby it manages and improves identified process(es). During *phase 3* services the client will become really dependent on LBB Teams because it will manage and improve all SC processes for its client's EurAsia SCs.

Next operational requirements of LBB Teams are provided. Primary activities, which are centrally important to LBB Teams' strategic capability, are identified. Secondly human capital, organisational and technological resources required are assigned to the primary activities. Specific requirements of the relationships which should be established when offering the value proposition are identified by using Lambert & Cooper's SCM framework (2000). It is concluded that the extent to which LBB Teams will be able to manage its client's SCs in *phase 2* and *3* solutions depends to a large extent on the cooperation agreements it can establish with primary SC members and non-member links.

One can conclude that there are many possibilities for LBB Teams whereby it can facilitate key processes in its client's EurAsia SCs. Some options are currently too demanding for LBB Teams. It is recommended for the company to continue its consulting & research activities first. When good relationships and mutual trust are established with its client and the SC members it can offer its management solutions by the identified phase model.

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## List of abbreviations

| | |
|---|---|
| 3PL | Third Party Logistics Provider |
| 4PL | Fourth Party Logistics Provider |
| BM | Business Model |
| BPO | Business Process Outsourcing |
| CSFs | Critical Success Factors |
| CVP | Customer Value Proposition |
| DC | Distribution Centre |
| FM | Food Manufacturer |
| FIM | Food Ingredient Manufacturer |
| JIT | Just in Time |
| LSP | Logistics Service Provider |
| SC | Supply Chain |
| SCM | Supply Chain Management |
| VAL | Value Added Logistics |

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# CHAPTER 1 INTRODUCTION & METHODS

## 1.1 Background & Goal Definition

Government policies, social changes, business trends, advances in IT and globalization all contribute to transformation of the service industry. The change from product-driven markets towards information-driven, service oriented markets has been leading to a strong B2B driven growth in the service sector (Johnson et al., 2000; Lovelock and Wirtz, 2007). An increasing focus of companies on their core competencies further results in outsourcing of many services (Lovelock and Wirtz, 2007). Vendors can benefit from providing new services because these can (1) enhance the profitability of existing offerings, (2) attract new customers to the firm, (3) improve the loyalty of existing customers, and (4) open markets of opportunity (Storey and Easingwood, 1999).

This research is conducted on behalf of LBB Teams, a small company with a background in consulting and research. The company has offices in The Hague (headquarters), Kuala Lumpur and Bangkok. LBB Teams wants this research performed in order to develop a new line of business; namely providing supply chain management (SCM) services in Asia. In order to adhere to these wishes the researcher will take up a new service development (NSD) approach.

By contracting LBB Teams companies will 'outsource' their SCM. In this case, outsourcing is defined as companies contracting a partner to organize supply chains (SCs) for them together with the information technology that supports this process (Halvey and Murphy Melby, 2007). Outsourcing of SCM activities is not a new concept (Halvey and Murphy Melby, 2007, Moorst, A. van, and Wel, P. van, 2006) but it is interesting to investigate which solution to offer to the industry for it will be bounded by LBB Teams' organisational goals and characteristics. Ir. Tieman aims to develop SC services for European companies, hereby solving his client's problems in personal manner. He does not want LBB Teams to compete on price of the service offer but on high value adding services, i.e. by improving SC quality or reducing costs for its client.

Operations will be managed from Kuala Lumpur where LBB Teams employs a team of European and Asian employees. The company wants to operate as an extension of its client whereby it will use its client's IT-systems. Tieman aims to provide a short set up time of its service offering, i.e. within four weeks. In order to manage its cash flow LBB Teams wants to ask for a three months retainer. Not owning capital goods or property will enable LBB Teams to operate independently and flexible. LBB Teams sees the service it provides as an intermediate stage in its clients SCM by being under contract for a period of approximately three years with a possible extension of two years. Once its client's SCM is improved and LBB Teams has achieved its value adding objectives then its customers can opt to take management of their SCs back in-house.

The research focuses specifically on development of SC services for Dutch food (ingredient) manufacturers in Asia. These companies are identified as being primarily engaged in producing food for human or animal consumption. 'Food' manufacturing can refer to animal food, grain, oil, sugar, fruit, vegetables, dairy, meat, seafood, bakery, and other food (ingredients) (Canadian Industry Statistics, May 2008; FNV Bondgenoten, May 2008).

The industry is also referred to as the 'agro food cluster' which can be subdivided into the primary agriculture sector and the post-harvest industry. SCs of these sectors have different characteristics (Van de Vorst, 2000). SCs for fresh agricultural products (such as fresh vegetables, flowers, fruit) may comprise growers, auctions, wholesalers, importers and exporters, retailers and speciality shops. During the SC stages the intrinsic characteristics of the product grown or produced in the countryside remain untouched. The main processes in the SC are the handling, storing, packing, transportation, and trading of these goods. The post harvest sector encompasses consumer products, semi-manufactured products, pet food and supply. Both foods as well as food ingredient manufacturers are part of this post-harvest sector. Products of food ingredient manufacturers can be used in other industries, such as the pharmaceutical industry. In post-harvest SCs agricultural products are used as raw materials for producing products with higher added value (EVD, May 2007).

In 2006, the Dutch food sector comprised around 4500 businesses. The largest businesses were active in baked goods, processing of slaughtered animals and meat processing, dairy products and animal feed (EVD, May 2007).

The Food Manufacturing Industry is part of the broader food and stimulant industry which acts as a well-coordinated chain with, on the one hand, the farming sector that supplies raw materials, and on the other hand the buyers of foods and stimulants: wholesalers and retailers. This coordination safeguards food quality and food safety. In response to consumer demand for food safety, effective SCM has become a 'unique selling point' for many foods (Hollandtrade.com, May 2008). A role of a food manufacturer's in the total value network is provided by Van de Vorst (2000) in his research on effective food supply chains (*Figure 1*).

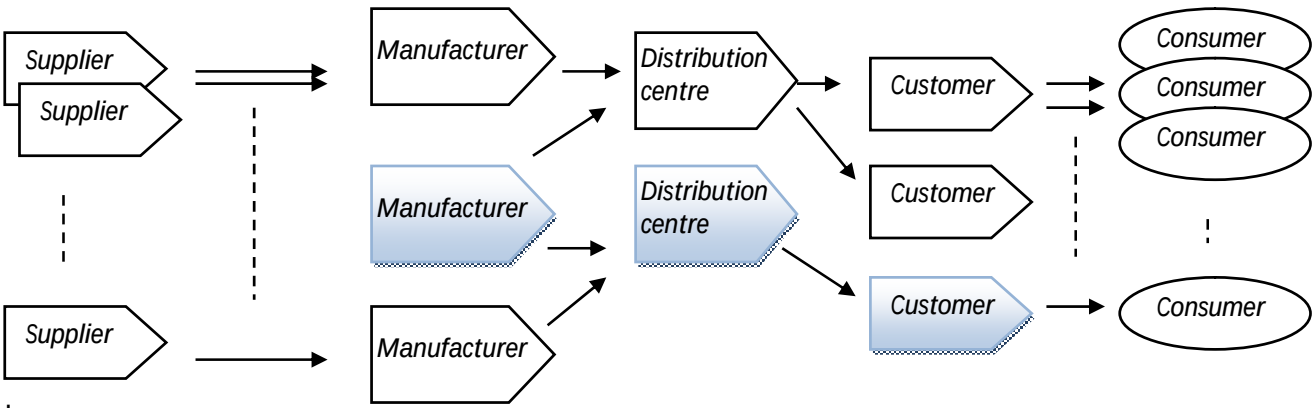



*Figure 1: Schematic diagram of a generic food SC (shaded) in the total supply network, Van de Vorst (2000)*

Critical Success Factors (CSFs) for medium-sized food manufacturers in order of importance are *product innovation*, *price and cost management, identifying niches, customer service, quality and flexibility in operations*. These factors differ from competitive approaches of large, multinational food processors. These companies are considered to compete based on *economies of scale, superlative marketing and/or by dominance of the brand label market*. Being able to provide new products at a price-cost point in market niches that are not targeted by the strategies of large multinational is critical to success of the smaller firms (Van Duren et al., 2003).

Emerging markets are important for food manufacturers because of the size and growth in population of these markets and the rising income levels. Expectations are that these markets will account for most of the anticipated increases in global food demand over the next couple of decades (Regmi et al.). Opportunities in these markets derive from religious backgrounds as well as increasing attention for health and ethics. I.e. Nestlé is pushing itself forward as a health-and-wellness company by invoking Halal as 'that which is good, healthy, safe and high quality in all aspects of life. Halal products are believed to represents values that are held in high regard by all peoples, cultures and religions' (Forbes, 2007). For the food manufacturing industry to remain competitive in a changing business environment a business strategy focused on succeeding in emerging markets is recommended (Capgemini, 2006).

However, the emerging market of Asia might impose obstacles for companies due to physical distance (e.g. increased lead time/perishable products) and communication difficulties (e.g. different time zones, culture and language). There are several other risks such as political risk, lack of economic data, debt indicators, debt in default or rescheduled, credit ratings, access to bank finance, access to short-term finance, access to capital markets and discount on forfeiting, which also need to be resolved and managed in order to become successful (Cavusgil, 2002).

To conclude, for companies in the food manufacturing industry which consider the obstacles outnumbering the advantages in their SCs Business Process Outsourcing (BPO) of SCM can be a solution. LBB Teams wants to provide this solution.

## 1.2 Research Objective

LBB Teams' objective is to develop innovative SC services for European companies wanting to outsource their SCM for their Asia operations. Because of limited time and resource scarcity this research will take a more narrow view and focus on the Dutch Food Ingredient Manufacturing Industry and its SCs in Asia (*Appendix* A).

The research objective is:
*To provide LBB Teams with detailed guidelines about which supply chain services to provide to Dutch Food (Ingredient) Manufacturers in Asia and to advice LBB Teams on organisational requirements for providing these services.*

Achieving the objective results in a business model which depicts the positioning LBB Teams will take in its customer's supply chain, i.e. the services the company will offer its clients. Also operational guidelines are provided. These recommend on how it should organize in order to provide the proposed services to its clients.

## 1.3 Problem Formulation and Research Questions

As identified in the previous section, the research objective is to formulate a business and operations model that can be used by LBB Teams in order to effectively manage supply chains from Europe to Asia.

The problem LBB Teams faces is formulated as following:

> *Which activities should LBB Teams conduct in order to facilitate key processes in EurAsia supply chains of Dutch Food (Ingredient) Manufacturers?*

The 'new service development' perspective of this research is supported by several models. One of these models is constructed by Johnson et al. (2000). These authors constructed a process-based model for NSD, existing out of two phases: the planning phase and the execution phase *(Figure 2)*. These can also be referred to as the pre-launch phase and post-launch phase (Cooper et al., 1998). The phases are supported by the 'enablers'; the facilitators of successful NSD. The planning phase consists out of a *design* and *analysis* stage and the execution phase comprises of the stages *development* and *full launch*.

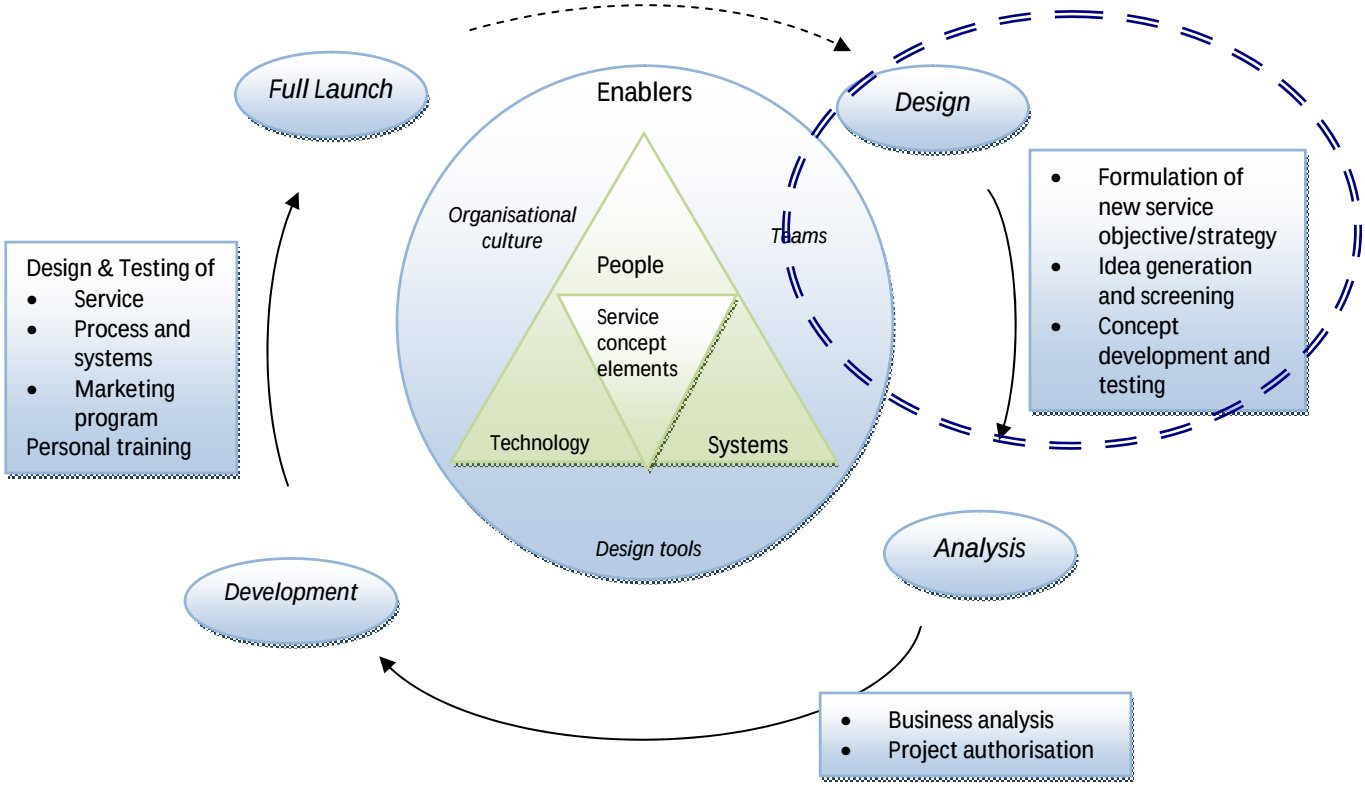



*Figure 2: The NSD process cycle, Johnson et al. (2000).*

A more linear view (adopted from Sandén, 2007) on new service development is depicted in *Figure 3.*


*Figure 3: A linear pre-launch process.*

The focus of the research lies on the design stage of Johnson et al.'s model which activities coincide with Sanden's stage model. Derived from these models and complementary theories (*Appendix B)*, a conceptual framework for this research is constructed (*Figure 4)*.

To make this framework more comprehensible the corresponding elements of Johnson et al.'s and Sandén's process frameworks for new service development are listed on the right.

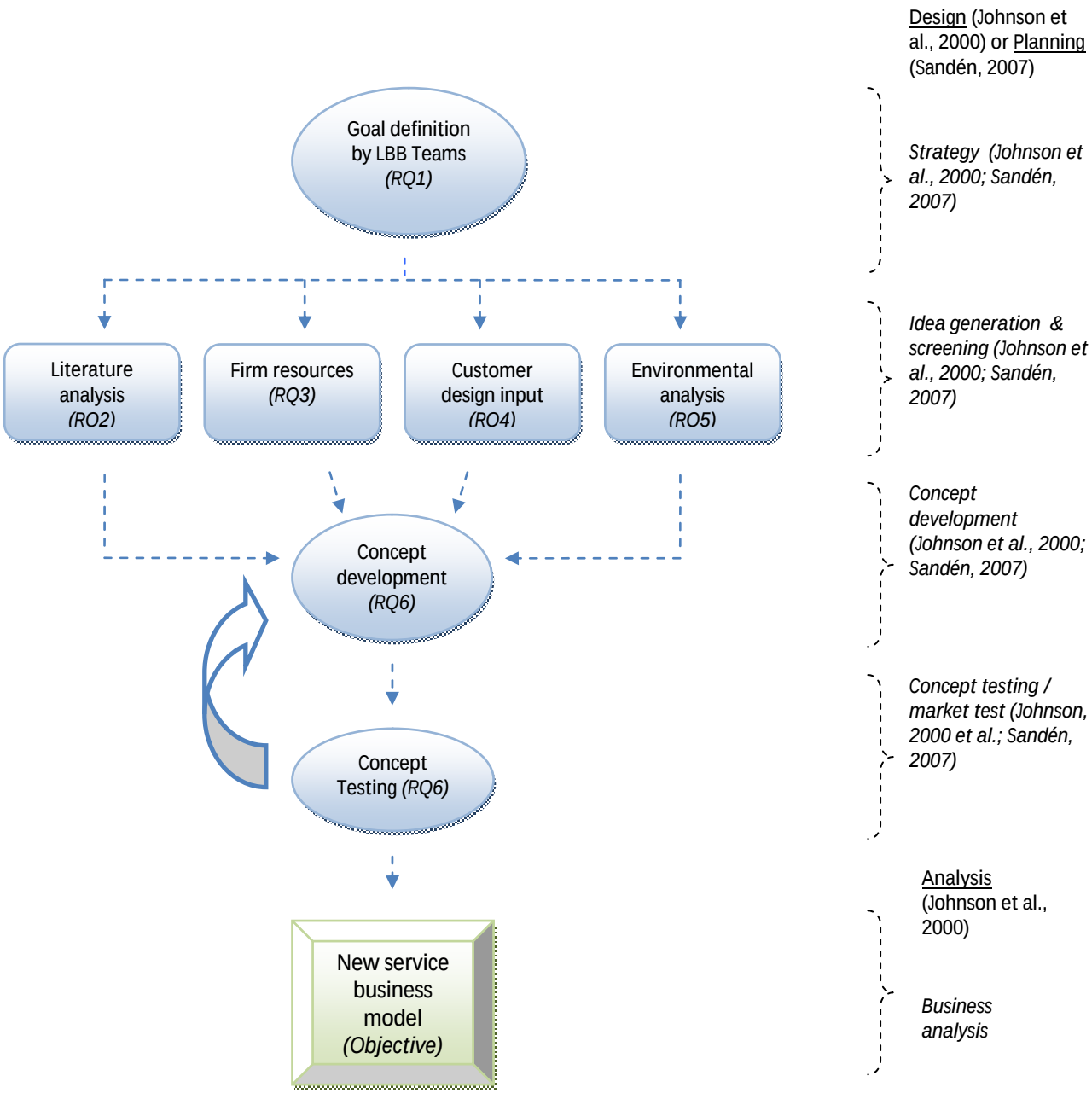



*Figure 4: Framework for research*

Based on the framework of the research several research questions are formulated.

1. *What is the goal of LBB Teams?*

This first question is already answered in chapter 1; LBB Teams aims to provide SCM solutions for the Dutch Food (ingredient) Manufacturing industry.

In order to achieve this goal firstly the services LBB Teams could offer should be identified. This is done by 'idea generation'. In order to generate ideas several analyses are conducted; namely a literature analysis, internal analysis, an analysis of customer design input and an environmental analysis.
These analyses aim to answer the following research questions:

2. *Which ideas for concept development are generated by literature analysis?*
3. *How do LBB Teams' organisational characteristics influence the new service offering?*
4. *How does customer design input contribute to idea generation on which services to offer?*
5. *How do environmental factors contribute to idea generation on the new service design?*

Answers to these research questions will be provided in chapters 3, 4, 5 and 6. These chapters comprise of the *idea generation* stage. The next challenge is to develop a concept which is derived from goal definition and idea generation. Therefore the following research question is formulated:

6. *Which opportunities derived from goal definition and idea generation should be conceptually tested?*

In order to test the conceptual design the following research question is formulated:

7. *What are food (ingredients) manufacturer's opinions on the conceptual service offer?*

After concept testing an idea for exploitation, or strategy, will be formulated in chapter 8. This idea will be refined in order to derive to a description of the services and operational requirements for LBB Teams.

## 1.4 Research Design

Besides providing LBB Teams with a solution this research is conducted in order to obtain a Master of Science degree and is therefore conducted in a scientific manner. In order to validate that characteristics of scientific research were lived up to this section provides explanation on the research design.

The nature of this specific research is that it has direct and immediate relevance for LBB Teams. The research can be defined as being 'applied research'. The general characteristics of applied research are that it should improve the understanding of a particular business problem; findings are of practical relevance to the organisation, it generates new knowledge about a certain problem and ultimately results in a solution. The context of applied research is that it is not necessarily conducted by a university, the objectives are negotiated with the originator and there are tight timescales, which corresponds to the research performed for LBB Teams.

The approach of this research is *inductive*; theory is build upon gathered data (Saunders et al., 2007). Qualitative data is collected from a small sample in order to establish different views and gather answers to the research questions. Argumentation for conducting research in this way stems from the fact that the researcher first has to create an understanding on 'what's going on?'. No highly structured methodology by which data could be tested was yet available.

Further, the research for LBB Teams is *explorative.* In this case exploration aims to provide the researcher with a better understanding of the practices and requirements of Dutch food (ingredient) manufacturers, which (intend to) distribute towards Asia, and their supply chains. Three ways (Saunders et al, 2007) in which an explorative research is most often performed are:

- A search of literature
- Conducting interviews
- Conducting focus group sessions

The researcher uses the first two of these approaches in the process of exploration which will pass in review in *section 1.5*. Due to resource limitations focus group sessions were not feasible. Instead brainstorm sessions with the CEO of LBB Teams were conducted.

The research is based on observations representing a single point in time. The outcome of the research is a practical business model for LBB Teams to use in which a model is defined (Grix, 2004:21) 'as an abstraction of reality that visualises some of the relationships between concepts'. In this case it results in a visualisation of the services LBB Teams should offer and how it should do so.

## 1.5 Research Approach

The researcher tried to create better opportunities to answer research questions by performing a multi-method qualitative study. More than one qualitative data collection technique and corresponding qualitative analysis were executed. The methods used are:

- A search of theory on the specified topics
- Qualitative interviews
- Brainstorm sessions with CEO of LBB Teams.

Some biases about qualitative research are that it is subjective, not representative, and non-systematic (Cooper and Schindler, 2006). Because data was expressed through words collection resulted in non-standardised data requiring classification into categories (Saunders et al, 2007). Analysis was conducted through the use of conceptualisation. In order to deal with issues about trustworthiness of qualitative data the methodology used for the research includes careful use of literature searches, justifying methodology, field research, structuring the data analysis and comparing data across multiple sources and different contexts.

For the purposes of exploration and description a literature analysis on services in SCM and BPO is conducted. This consists of a search for recent research studies and industry reports that act as a basis for the proposed study (Cooper and Schindler, 2008). Besides a literature search a deliberate search for secondary date on behalf of the research was conducted. In order to address issues of

secondary data and to establish control over data quality criteria in evaluating secondary data are introduced.

In order to perform a proper literature analysis first parameters (*Table 1)* for the study were identified which fall within the boundaries of the research. Findings from initial reading on behalf of this research were discussed with tutors, the principal and colleagues. This resulted in a list of key words useful for the literature search (*Appendix C*). The search for the listed key words was performed in varying combinations.

| *Parameter* | *Narrow* | *Broad* |
|---|---|---|
| *Language* | English (e.g. supply chain outsourcing) | English and Dutch (e.g. supply chain outsourcing and ketenbeheer uitbesteden) |
| *Subject area* | New service development | Service development |
| *Business Sector* | Dutch food ingredient manufacturing industry | Manufacturing industry<br>Food industry |
| *Geographical area* | The Netherlands | Europe / Asia |
| *Publication period* | Last 5 years | Last 10 years |
| *Literature type* | Refereed journals and books | Journals, Books and websites |

*Table 1: Literature search strategy*

The researcher has several reasons to include secondary data. Firstly secondary data can provide the building blocks of the search for primary data. By collecting and analyzing secondary data the researcher derived to ideas about which concepts to address in the interviews and brainstorm sessions. Also, because of time and resource scarcity combining primary and secondary data is believed to enhance the quality of the findings (Saunders et al, 2007).

There are also some disadvantages which derive from using secondary data (Saunders et al, 2007). The first disadvantage is that data may be collected for a different purpose, therefore not matching the researcher's needs. Thus the original purpose of the gathered data was examined to see if it fitted within the scope of this research. Next secondary data was selected which is up to date; the most recent version of publications was used and the researcher tried to establish the report using recent data.

Besides, aggregations and definitions used in secondary data sources may not be suitable for the research at hand. Therefore the researcher established a working sheet in which all concepts and definitions are framed to maintain an overall view and to see if definitions and concepts coincide or differ from each other. Based on the framework the researcher decided whether or not to include or reject certain sources. Whenever data useful for this research concerned 'general' terminology and concepts, i.e. BPO and/or SCM, the researcher tried to combine primary and secondary data.

Primary data was gathered by qualitative interviews in order to identify requirements and customer design input. The interviews were conducted among those knowledgeable about SCM services. Interviews are considered to be a suitable form to learn about the insights, practices and expectations when it comes to SCM and its outsourcing by companies operating in the industry

under study. Both a semi-structured as well as a structured approach is applied. A semi-structured approach implies that the researcher has a list of themes and questions to be covered, although these may vary from interview to interview. In the structured approach (during concept testing) questions and sequence are fixed (Babbie, 2007).

In order to determine the appropriate sample size the researcher took the concept of 'saturation' in mind (Strauss & Corbin, 1998; derived from Thomson, 2004). Saturation occurs when:

- No new or relevant data seem to emerge regarding a category;
- The category is well developed in terms of its properties and dimensions demonstrating variation;
- The relationships among categories are well established and validated.

Thus the researcher should continue expanding the sample size until the interviews reveal no new data. There is no set number for when theoretical saturation occurs (Thomson, 2004).

Three issues regarding to the use of semi-structured interviews are identified by Saunders et al (2007) as possibly affecting the data quality. These issues were kept in mind and dealt with properly. First of all, reliability refers to whether alternative researchers would reveal similar information. Responses are not necessarily intended to be repeatable because they reflect reality at the time of the interview and may be subject to change. By explaining the seven stages of the interview process (Kvale, 1996) in *Table 2* as well as the rationale of conducting qualitative and non-structured interviews in this section and by including the data obtained in the report the researcher attempts to make other researchers understand the processes used.

| *Stage* | *Purpose* |
|---|---|
| *Thematizing* | Clarifying the purpose of the interviews and the concepts to be explored |
| *Designing* | Laying out the process through which one accomplishes the purpose, including a consideration of the ethical dimension |
| *Interviewing* | Doing the actual interviews |
| *Transcribing* | Creating a written text of the interviews |
| *Analyzing* | Determining the meaning of gathered materials in relation to the purpose of the study |
| *Verifying* | Checking the reliability and validity of the materials |
| *Reporting* | Telling others what one learned |

*Table 2: Seven stages in interviewing process*

Secondly, forms of bias can affect data quality. Identified forms of bias are:

- Interviewer bias: where the comments, tone or non-verbal behaviour of the interviewer creates bias in the way that interviewees respond to the questions. This bias will be avoided by taking several organisational dimensions of the interview in to account, such as language, appearance and the way questions are posed.
- Response bias: caused by perceptions about the interviewer or in relation to perceived interviewer bias. Response bias closely interacts with interviewer bias; by avoiding interviewer bias the researcher will try to rule out response bias.

Thirdly issues regarding validity and generalisation arise. Validity refers to the extent that information obtained from the participant is interpreted as intended by the respondent. The validity of the interviews is enhanced by explaining concepts properly and paraphrasing the respondent's answers, which is part of the interview process in *Table 3*. Generalisation concerns whether the research can be generalized to the entire population of Dutch food (ingredient) manufacturers distributing towards Asia. I.e. one obvious issue is that 'Asia' is very broadly defined and different countries have different characteristics and thereby perhaps different demands on SCM. In order to deal with this issue the qualitative data derived from the interviews is analyzed and whenever possible related to existing theory in order to demonstrate the broader significance of the particular findings.

Finally, in order to stimulate idea generation and to develop a sound match and solid business model for LBB Teams to work with findings derived from literature and interviews were discussed with the CEO on a regular basis. To define the scope of these sessions the seven stages of the interview process were used (*Table 3)*.

| *Stage* | |
|---|---|
| *Thematizing* | I.e., business model, organisational resources, new service development |
| *Designing* | Purpose: to explore how to come to a sound match and solid business model for LBB Teams to work with. |
| *Group session* | Researcher act as a facilitator: probing questions, leaving room for discussion, maintaining within the boundaries of the research, asking open questions to stimulate discussion, taking notes and/or recording. |
| *Transcribing* | Creating a written text of the session |
| *Analyzing* | Determining the meaning of gathered materials in relation to the purpose of the study |
| *Verifying* | Checking the reliability and validity of the materials by asking feed-back on the written text |
| *Reporting* | Making the outcomes of the brainstorm session available in the report |

*Table 3: Seven stages in discussion sessions*

# CHAPTER 2 THEORETICAL FRAMEWORK

## Introduction

The aim of the research is to generate a thorough understanding about which services LBB Teams should offer Dutch food (ingredient) manufacturers and to develop a business as well as an operational model which enables LBB Teams to successfully manage Dutch food (ingredient) manufacturers' supply chains. In order to reach this goal this chapter will first elaborate on new service development (NSD) in order to develop a comprehensible understanding of this concept. Secondly the different elements of the research framework are explained as well as the rationale behind these elements.

## 2.1 Conceptual Framework for Creating a New Service

A 'new service' is defined (Johnson et al, 2000) as 'an offering not previously available to customers that results from the addition of offerings, radical changes in the service delivery process, or incremental improvement that the customers perceive as being new'. In the design process a distinction can be made between radical and incremental innovations. Radical innovations can be sub-defined into 'major innovation', 'start-up business' and 'new services for the market presently served' (Johnson et al., 2000; adapted from Lovelock, 1984; adapted from Heany, 1983).

But what is the best way for companies to select and develop a new service? This subject emerged the past decade as a subject of scholarly enquiry (Johnson et al, 2000; Menor et al., 2002; Fitzsimmons and Fitzsimmons, 2003; Froehle and Roth, 2007), but remains an area for future research (Sandén, 2007).

Several authors enhance the view that success of the service depends on understanding the customer as well as the organisational capabilities in service design and offering (Lovelock and Wirtz, 2007; Sandén, 2007; Johnson et al, 2000). Because of an increasing number of services, customers of business-to-business (B2B) services have many choices and can and will execute more power (Lovelock and Wirtz, 2007). Customer involvement in new product and service development is defined as those processes, deeds and interactions where a development team collaborates with current (or potential) customers at the program, project and/or stage level of the development process, to uncover sticky information such as latent needs, develop customer knowledge, and develop new solutions accordingly (Sandén, 2007).

Because the main characteristic of a service is that it is produced and consumed at the same time, testing throughout the development process is considered difficult (Sandén, 2007). Engaging a limited selection of specially selected customers and working closely with them during the new service development process (the planning stage) is suggested to minimize problems, such as failing to meet customer demands and insufficient market research techniques (Sandén, 2007).

Menor et al. (2002) refer to Johnson et al. (2000) in their search of answering the question which activities are necessary for successful NSD execution. The latter conducted a research in which they identified the *new service development (NSD) process* as a critical factor in new service success. The

NSD process (*section 1.3; Figure 1*) can be defined as the set of stages and activities, actions or tasks that move a project from the idea stage to the final launch (Cooper et al., 1994).
Froehle and Roth (2007) integrated process oriented with resource oriented approaches in NSD in order to explore which practices are most viable for success. Customer design input, developing a strategic definition and customer concept feedback are important in designing the new service. During analysis a competitor and market research are viable for success. Also resources – intellectual, organisational and physical – facilitating NSD are identified. For the researcher is it important to establish diverse creativity, generate ideas and gather employee design input (Froehle and Roth, 2007).

In order to better manage and understand the generation of new ideas – in this case for the new service offering - Flynn et al. (2003) conducted a research. Drawn up from issues regarding creativity, their methodology (*Appendix D*) consists of four distinct phases which may collectively be referred to as "idea creation". Organisational resources interfere with every step of their framework. The phases are as following:

- Strategic Direction (*Strategy formulation)*
- Environmental Scanning (*Idea generation & screening)*
- Opportunity Identification (*Idea generation & screening)*
- Idea Generation (*Concept development)*

Written in *italic* are the corresponding phases as identified by Johnson et al. (2000) and Sandén (2007). The terminology provided in *Figure* 4, thus derived from Johnson et al. and Sandén will be used in this research in order to prevent confusion.

*Appendix B* provides an overview of the different theories contributing to the framework (*section 1.3; Figure 4)* established for this research. The next sections will elaborate on the different components of the framework.

## 2.2 Goal Definition

Goal definition[1], or defining a strategy, is the first step in new service development (Johnson et al., 2000; Sandén, 2007). The goal defines where the organisation wants to go; it is a general statement of aim or purpose (Johnson, Scholes and Whittington, 2008). By defining a goal an initial set of boundaries is constructed for the research. The goal for this research derives from the corporate direction which was discovered by discussions with members of LBB Teams and is defined in the background of the research (section 1.1).

Recapitulated; LBB Teams aims to manage while continuously improving its clients outbound supply chains. The company wants to provide this service by acting as an extension of its client. It will operate at 'arms length control' by using its clients IT-systems. By having this construction LBB Teams intends to 'inject' its knowledge into the client.

[1] N.b. the term 'goal definition' will be used to refer to this step in order to prevent confusion with section 7.2 which concerns 'strategy formulation'.

## 2.3 Idea Generation & Screening

In order to generate ideas the internal and external environments were monitored and scanned. The aim was to identify potential stimuli which help stimulate the idea generation process. Search modes (Aquilar, 1967) ranged from undirected exposure to information with no specific decision or purpose in mind (i.e. reading the newspaper) to a formal search in which a deliberate effort was made to obtain desired information. The purpose was to identify requirements of (potential) customers, gather views of the level of influence by environmental factors and to gain employee insights about new ideas. Four formal search modes were conducted in this research.

*Literature analysis*: In order to generate ideas and establish a frame of reference literature on SCM and service providing by business process outsourcing (BPO) is analysed in chapter 3. The choice to review SCM derives from the suggested content of the new service. BPO is included because literature on this subject can be linked to different types of partnerships in SCM collaboration.

*Analysis of firm resources*: Resources and competences together make up the strategic capability of the organisation which enables it to survive and prosper. Strategic capability is taken into account in developing a conceptual business and operations model. Also it enables making recommendations for adding, changing, extending or stretching capabilities, because the internal influences and constraints influence strategic choices for the future (Flynn et al., 2003; Froehle and Roth's, 2007).

Resources are described in terms of Barney's resource typology (1991) and Fernández et al.'s (2000) intangible resource typology (*Appendix E*). Firstly, *Intellectual resources* are the 'human capital' category (Barney, 1991; Fernández et al., 2000). These resources include, for instance, educational, cultural and experiential knowledge and skills contained within the firm's employees. In the idea generation methodology (Flynn, 2003) intellectual resources are present in the input derived from 'employee insights'. The intellectual resources are the 'people' in the NSD process cycle (Johnson et al., 2000). *Organisational resources* are the management systems, attitudes and personal relationships adopted and developed by the company (Barney, 1991; Fernández et al., 2000). These resources are present in the NSD process cycle as the 'systems' enabling NSD (Johnson et al., 2000). *Physical resources* include assets such as the facilities, tangible technologies, geographic location and raw materials employed by the firm (Barney, 1991; Fernández et al., 2000). Also financial resources such as available capital and suppliers of money are important to consider. These are identified as the enabling 'technology' in Johnson et al.'s NSD process cycle.

In this analysis also LBB Teams' core competences are identified. 'Core competences' are defined as a combination of resources and high levels of competence in particular activities (Johnson, Scholes and Whittington, 2008) that underpin competitive advantage and are difficult for competitors to imitate or obtain. Chapter 4 elaborates on firm resources of LBB Teams.

*Customer design input*: Different customers have different requirements which importance can be understood through the concepts of market segments and critical success factors (Johnson, Scholes and Whittington, 2008).

A market segment is defined as a group of customers having similar needs that are different from customer needs in other parts of the market. The market segment on which this research focuses is that of Dutch food (ingredient) manufacturers. Elaboration on this market segment can be found in the background of the research (*section 1.1*).

Critical success factors (CSFs) are those product features that are particularly valued by a group of customers (Johnson, Scholes and Whittington, 2008). The CSFs of SCM and the new service design are identified by interviews and secondary data analysis in chapter 5.

*Environmental analyses:* Next to an analysis of the market environment strategy formulation also depends on the *industry* in which the new service offering must be able to survive. The industry environment is made up of organisations producing the same products of services. In this case the industry comprises of companies which offer services related to SCM.

A short benchmarking study was conducted. The five-stage approach to services benchmarking (Christopher, 1991) was used as a guideline:

- Stage 1: Defining the competitive arena, i.e. with which companies does LBB Teams want to be compared or with which companies are they compared?
- Stage 2: Identification of the key components of customer service as identified by the customers;
- Stage 3: Establishment of the relative importance of those service components to customers;
- Stage 4: Identification of the customer position on the key service components relative to competition;
- Stage 5: Analysis of the data to see if service performance matches customers' service needs.

Chapter 6 elaborates on stage 1 of benchmarking. Stage 2, 3 and 4 were taken in mind during concept testing (*section 2.5*).

Next the *macro environment* is described. The reason for doing so is to identify the key drivers for change for both LBB Teams and Dutch food ingredient manufacturers. Flynn et al. (2000) introduce in their framework the *PESTEL*-analysis. This analysis by which political, economic, social, technological, environmental and legal dimensions can be analyzed is used in this research. Broad environmental factors which impact to a greater or lesser extent the content of the service and the value proposition to offer to the customer are described in chapter 6.

## 2.4 Concept Development

*Concept development* aims at developing a specific, recognizable concept for exploitation. The aim is to investigate and explore all aspects deriving from *goal definition* and *idea generation & screening*.[2] Within the idea creation methodology, *concept development* comprises of the following elements (Flynn et al., 2003):

- *Model stimuli:* stimuli that are identified as potential opportunities for new service development will be mapped in order to provoke creative thought on the idea with regard to fundamental themes and features related to the idea.

[2] N.B. activities constituting these steps can be linked to the elements *strategic direction, environmental analysis* and *opportunity identification* as identified by Flynn et al. (2000) in *Appendix D.*

- *Brainstorm suggestions:* In order to build ideas for new service development group-work and high levels of team interaction are useful because it increases the chance that a valuable solution will be developed.
- *Rank suggestions.*
- *Define idea.*

In this research 'modelling stimuli' and 'brainstorm suggestions' are separated from 'ranking suggestions' and 'defining an idea' in order to create more comprehensibility. This section elaborates on modelling stimuli and brainstorming suggestions.

During *idea generation* organisational resources interact with the potential stimuli. Discussions were therefore conducted with the CEO of LBB Teams in order to 'explore potential stimuli, follow hunches, experiment and sometimes take "leaps of faith", while evaluating stimuli for organisational opportunity' (Flynn et al., 2003). Derived from the conducted analyses strengths, weaknesses, opportunities and threats for the new service were identified. These were modelled in the *SWOT analysis*. The SWOT-analysis served as a useful tool to monitor opportunities for LBB Teams and derive to a concept. Strengths and weaknesses are internally imposed whilst opportunities and threats derive from external influences. Strengths and opportunities are those factors helpful to achieving the objective where weaknesses and threats might be harmful to achieving the objective.

## 2.5 Concept Testing

Concept testing is an approach whereby both quantitative as well as qualitative methods can be used to evaluate consumer response prior to the market launch of a product or service (Moore, 1982). In concept testing literature (Moore, 1982; Fitzpatrick, 1996) focus group sessions are often mentioned as a useful tool. In this case this was not feasible due to resource restrictions such as accessibility of the target group. Therefore the concept is qualitatively tested by obtaining potential customer feedback during structured interviews.

*Concept testing* exists of the latter two components of Flynn et al.'s (2003) concept development stage.[3]

- *Rank suggestions:* to gain more information and insights concerning the potential application and usefulness of the ideas presented the suggestions will be ranked in order of priority or importance to the organisation.
- *Define idea:* derived from all input a well-researched idea will be defined on which services to offer. Defining a concept for exploitation comes down to ideas being gradually refined into a form that is most likely to be accepted in the marketplace. Testing not only gives promising ideas a fighting chance; it also provides guidance for the communication of benefits, uses, advertising, sales approaches, product information, distribution, and pricing.

One of the guidelines for concept testing provided by Fitzpatrick (Marketing News, 1996) is that the concept statement should be organized and structured and as long as it needs to be (*Table 4)*. During concept testing opportunities are ranked on a scale ranging from lowest to highest potential. Qualitative measurement criteria were applied. By these criteria the identified opportunities were judged on suitability, feasibility and achievability (Johnson, Scholes and Whittington, 2008). The

[3] See section 2.4 for a list of all elements.

purpose of this process was finding out if the concept met customer criteria for the new service design.

| Do… | Don't… |
|---|---|
| • ..include some selling<br>• ..recognize when price is a defining element<br>• ..consider layering of alternatives<br>• ..elicit individual opinions in groups<br>• ..bear with the group process<br>• ..stay on track<br>• ..prepare for the afterward | • ..be too brief<br>• ..spend money on elaborate materials<br>• ..expect to get it right the first time<br>• ..misinterpret confusion |

*Table 4: Do's and don'ts in qualitative concept testing, Fitzpatrick (1996)*

The goal of concept testing is creating a model whereby utmost customer satisfaction will be achieved. The model used for concept testing is the 'customer satisfaction iceberg' (Abell, 1993; *Figure 5).* The reason to choose this model derived from the importance of creating value for the customers (Johnson et al., 2000; Sandén, 2007). Because the model was originally designed for measuring customer satisfaction regarding products components are adjusted in order to identify requirements of a new service. The rationale behind this model is that both service related and non-service related needs determine final customer satisfaction.

In order to discover how value can be created a customer satisfaction survey can be conducted. Such a survey includes measurements such as delivery, performance, support, responsiveness, quality, integration, cost, value and business relationship (Halvey and Murphey Melby, 2007) which the customer satisfaction iceberg reflects. Ir. Tieman highly values this model because it allows for assessing how value is provided as well as identifying the importance of the individual proposition components in a structured manner.

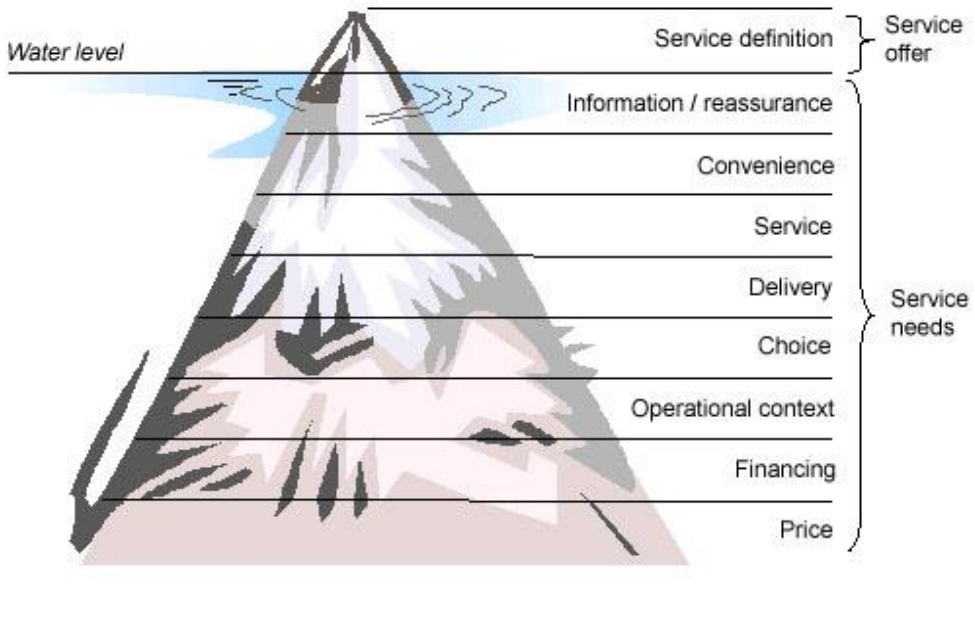



*Figure 5: Customer Satisfaction Iceberg for Services, amended from D.F. Abel (1993)*

The model used for concept testing consists of a description of the following elements:

1. Service definition: a broad description of the service which LBB Teams aims to offer.
2. Information / reassurance: a description of the purchasing advice & instructions about the service.
3. Convenience: service convenience is defined as consumers' time and effort perceptions related to buying or using a service, i.e. the lower the time costs associated with a service, the higher are consumers' perceptions of service convenience (Berry et al, 2002).
   So, how can LBB Teams make things easier for the customer? How can LBB Teams provide a high degree of customization to particular needs?
4. Service: this element consists of facilities that support the purchase and use of the service. It can be divided into three phases (Van Goor et al., 2002). In the *pre-transactional* phase an agreement between the parties is arranged for, during the *transactional* phase the value proposition will be delivered and the *post-transactional* phase is comprised of the follow up.
5. Delivery: the period of time between agreeing on cooperating and operations needs to be identified.
6. Choice: what choice of services will LBB Teams offer? Here the 'bigger picture' will be drawn. This component does not have a mere focus on the current research with its limitations but a choice of all SCM services the organisation can offer.
7. Operational context: the purchase and use context of this specific service will be examined and outlined in terms of service offering for the food ingredient manufacturing industry.
8. Financing: the terms of payment by which customer's will most likely want to operate are identified.
9. Price: This concerns the price level at which the service will be offered and the perceived value the services should achieve for the customer.

One can conclude that concept design and testing compose a circular process (*Figure 6)*.

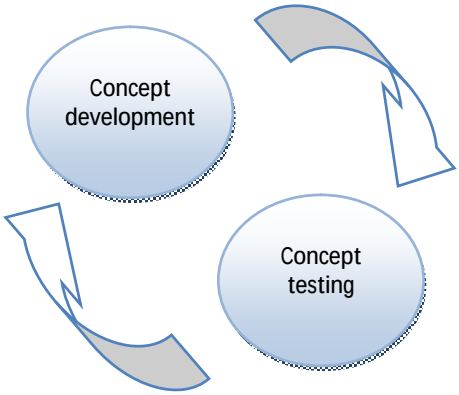



*Figure 6: Circular process of concept development and concept testing*

The next section will elaborate on interpreting the outcomes of concept testing.

## 2.6 Business Analysis

Firstly concept testing forms the basis for strategy formulation in chapter 8. A strategy is defined as a plan for interacting with the competitive environment to achieve organisational goals (Daft, 2007). A more extensive description of strategy is that it 'is the direction and scope of an organisation over the long term, which achieves advantage in a changing environment through its configuration of resources and competences with the aim of fulfilling stakeholder expectations' (Johnson, Scholes and Whittington, 2008). The service strategy can be stated in terms of the competitive direction defined by the perceived added value from the service in the consumers' eyes and the price which is received (Armistead, 1992).

For this research strategy was defined as for a *strategic business unit*. This is a strategy for a part of the organisation for which there is a distinct external market for services. The strategy is stated in terms of market entry, new services and ways of operating (Johnson, Scholes and Whittington, 2008).

The strategy describes the basis by which LBB Teams might achieve competitive advantage. A base of competitive advantage (Porter, 1985; Johnson, Scholes and Whittington, 2008) can be found in *price;* offering a low price which can be offered alongside low perceived service benefits and a focus on a price-sensitive market segment or offering a lower price than competitors while maintaining similar perceived product or service benefits. But companies can also opt for a *differentiation* strategy. This strategy seeks to provide products or services that offer benefits which are different from those of competitors and are widely valued by buyers. Another option is to operate in a *hybrid* manner; seeking simultaneously to achieve differentiation and a price lower than competitors. And finally a *focus* strategy can be adopted which seeks to provide high perceived service benefits justifying a substantial price premium. When choosing the latter strategy services will mostly be offered to a selected market segment.

Derived from concept testing and the formulated strategy a customer value proposition (CVP) is compiled. A CVP is defined as 'a marketing statement by a firm that summarizes how it can provide value for a prospective customer' (12manage.com, September 2008). The value proposition gives an answer to the question 'why' LBB TEAMS' clients should purchase the service offering.

Strategy formulation forms the basis for two aspects which are of particular importance to LBB Teams. The first one is the *service design*, i.e. the offer LBB Teams will propose to its – potential – customers, further referred to as the 'business model'. Secondly there are organisational requirements necessary to offer the proposed service.

Following strategy formulation a business model (BM) is established for LBB Teams. A BM is defined in this research as a description of the structure of the service and information flows and the roles of the participating parties (Johnson, Scholes and Whittington, 2008). Therefore, the positioning of LBB Teams in its customer's *value network* (Porter, 1985) is depicted. By creating this image potential customers get a view on the activities they will conduct themselves and the ones which might be outsourced to LBB Teams (*Figure 7)*.

Four key issues for managers in understanding the bases of their organization's strategic capabilities in relation to the wider value network are (Johnson, Scholes and Whittington, 2008):

- To identify which *activities are centrally important* to an organisation's strategic capability and which are less central
- To identify the *profit pools* which refer to the different levels of profit available at different parts of the value network. Once identified a decision can be made whether it is possible to focus on the areas of greatest profit potential.
- To make an *outsourcing decision*: whether or not to manage operations and/or activities in house.
- To identify which *partners* should be included in the parts of the value network and what kind of *relationships* are important to develop with each partner.

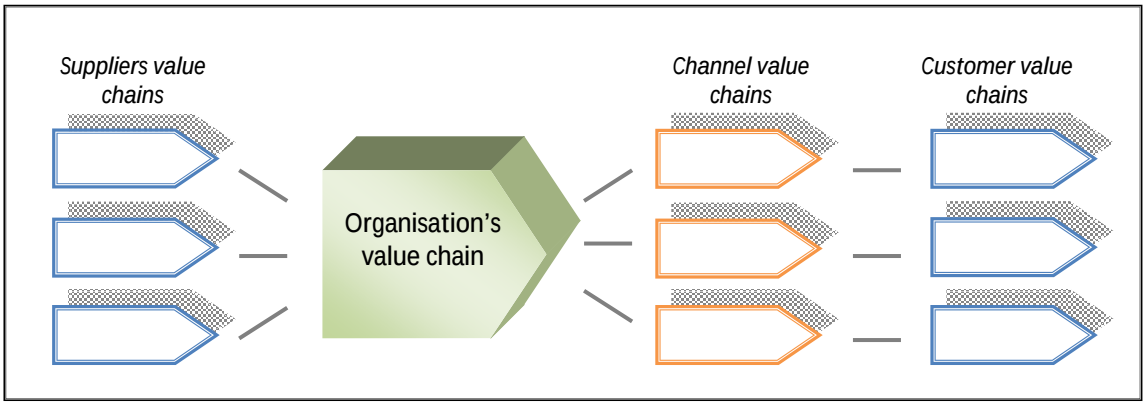



*Figure 7: Graphical representation of value network (amended from Porter, 1985)*

The value network does not make explicit statements on how the value is built in operational terms. Porter's value chain (1985) can be used in order to depict the activities a company will have to execute in order to deliver the value proposition. The value chain is composed of primary activities, which are directly concerned with the creation of its client's products, and support activities, which help to improve the effectiveness or efficiency of primary activities.

Porter's model for the value chain is however most useful for manufacturing firms. It has little meaning for many service organisations which cannot relate to the terms of the primary activities in Porter's model. A review of this model for service organisations was therefore designed by Armistead (1992).

Armistead identified two missing links between strategy formulation and service design (*Figure 8*). First, the link between the structure and operational activities involved in delivering the service (BM) and meeting the strategic goals was missing. Secondly the link between resources used in different stages of the service delivery was not yet established.


*Figure 8: Value chain reconfiguration for service firms: the missing links (Armistead, 1992)*

Elements of the left arrow constitute strategy formulation (*section 8.1*). The description in the right arrow is the BM as identified in *sections 8.2 and 8.3*. In order to fill the gap the value chain has to be stated in operational terms. For this purpose a revised model for the value chain is proposed (Armistead, 1992). The primary activities in his model constitute of delivery of customer service and support. Each firm needs to define its own set of activities and typically there are 5 to 7 primary activities for any service organisation. These primary activities were identified for LBB Teams in chapter 9 and form the first missing link between strategy and BM.

The second missing link is identifying the resources required for each stage of service delivery. This is done by identifying minimum requirements for operational resources (Barney, 1991; Fernández et al., 2000). In chapter 9 the resources, or required actions, are mapped against primary activities. Also the direct inter-relationship between the way by which value is built is shown in chapter 9. The value chain now not only describes “what has to be done well” but “how well it can be done”.

## 2.7 Conclusion

To conclude recommendations are made in this research by which LBB Teams should be able to successfully manage food (ingredient) manufacturers’ supply chains in Asia. Designing a concept firstly leads to strategy formulation which describes the perceived added value LBB Teams should achieve for the price asked and service demand mix offered. The research then arrives at a BM and operational requirements; being ‘the blueprint that defines the organisational activities and the resource allocations required for offering this defined business model’ (Daft, 2008).

Finally recommendations are established in chapter 10. These derive from including the following elements and selected methods in the research (*Figure 9).*

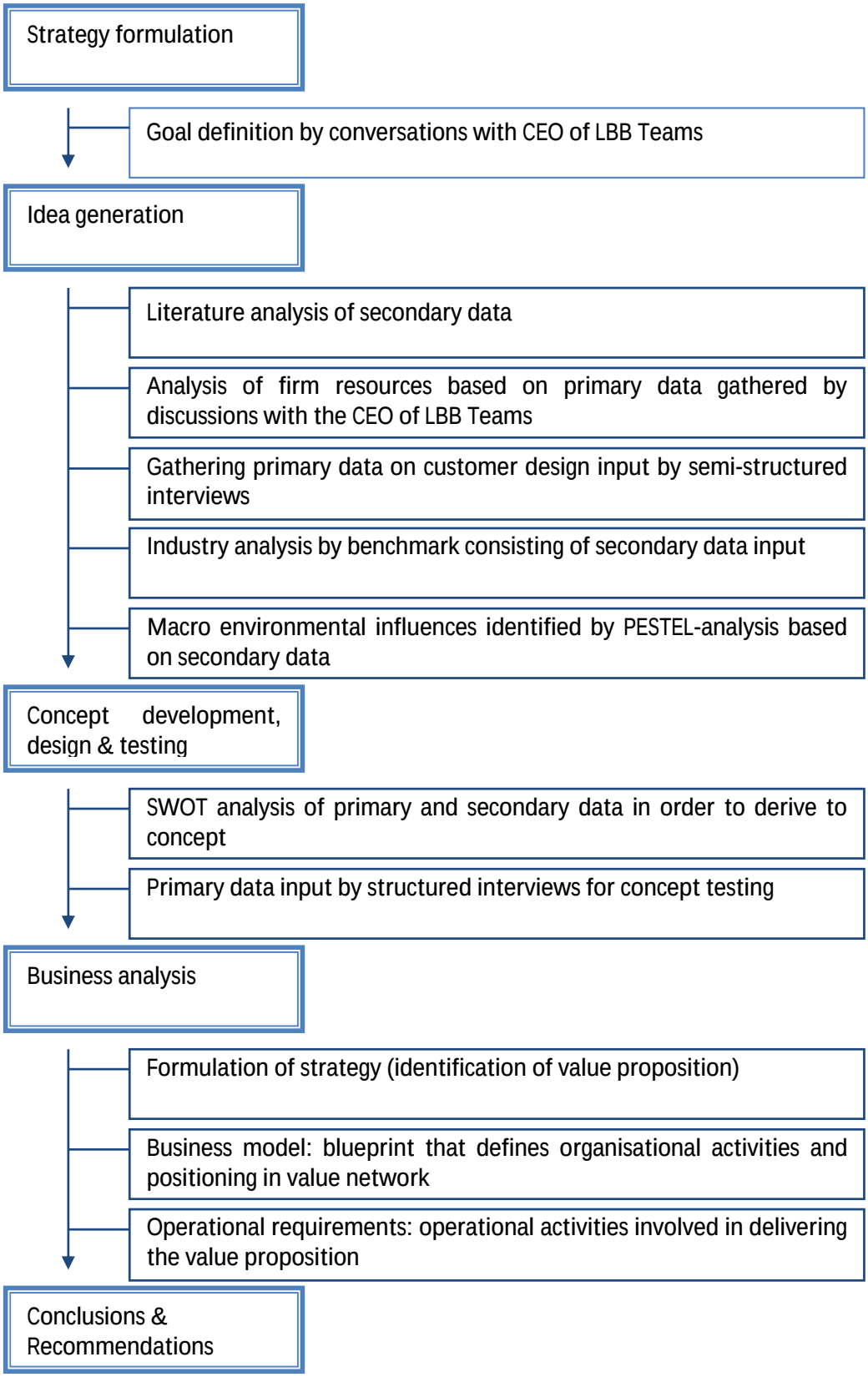



*Figure 9: Basis for recommendations*

# CHAPTER 3 LITERATURE ANALYSIS ON SERVICE PROVIDING IN SCM

## Introduction

In section 3.1 a literature analysis is conducted concerning SCM. The creation of a frame of reference in which a common understanding of this subject is established is desirable because LBB Teams wants to facilitate this process for its clients. In section 3.2 business process outsourcing (BPO) is examined. The reason to do so is that LBB Teams will establish a some sort of outsourcing agreement with its clients by offering its services. By analysing findings on both subjects an idea about the possible service design is established in section 3.3. This idea serves as input for strategy formulation.

## 3.1 Defining the Field of Supply Chain Management

Van de Vorst (2000) defines a supply chain (SC) as 'a network of physical and decision making activities connected by material and information flows that cross organisational boundaries'. Christopher (1998) defines a SC as 'the network of connected and interdependent organisations mutually and co-operatively working together to control, manage and improve the flow of materials and information from suppliers to end users'. Christopher's (1998) definition of SCM is 'the management of upstream and downstream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole'. SCM can also be defined as 'the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders' (Lambert et al., 2000).

These definitions of SCM all stress the importance of creating added – or even 'superior' - value for the customer. Van de Vorst's (2000) definition '*SCM is the integrated planning, co-ordination and control of all logistical business processes and activities in the SC to deliver superior consumer value at less cost to the SC as a whole whilst satisfying requirements of other stakeholders in the SC*' is considered most comprehensible and will therefore be adopted in this research.

This implies that one of the aims of SCM is creating utmost SC performance; the degree to which a SC fulfils end user requirements concerning the relevant performance indicators at any point in time. Performance indicators are operationalized process characteristics, which compare the efficiency and/or effectiveness of a system with a norm or target value (Van Der Vorst, 2000).

SCM in this research will be looked at from a unionist approach; one where SCM includes much of the traditional business school curriculum (Larson and Halldorsson, 2002). The 'House of SCM' illustrates these many aspects of SCM (Stadtler, 2008; *Figure 10*). The ultimate objective of SCM is competitiveness and the means is customer service. The pillars on which the roof rests comprise of the two main components of SCM. These are integration of a network of organisations and coordination of information, material and financial flows. Integration concerns the choice of partners, network organisation and inter-organisational collaboration and leadership. Coordination comprises of utilization of information and communication technology, process orientation and advanced planning. It is thus important to recognize that besides the logistical processes in the

supply chain (such as operations and distribution) also business processes such as new-product development, marketing, finance, and customer relationship management are processes belonging to SCM (Chopra and Meindl, 2001).

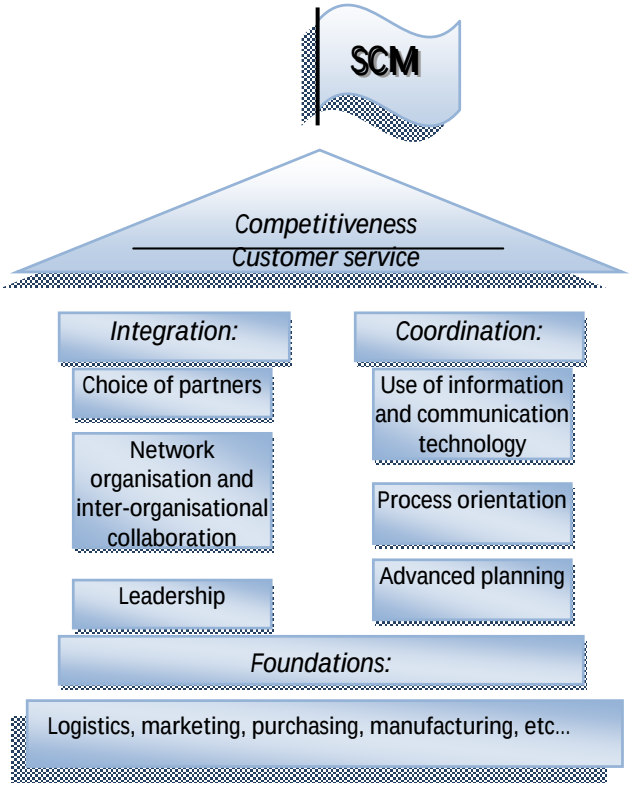



*Figure 10: House of SCM, Stadtler (2008)*

### 3.1.1 Material Management and Physical Distribution Management

SCM can be divided into *material management* and physical distribution management. The first encompasses all activities conducted in order to manage the flow of raw materials, semi finished products and information to and through the production process as efficiently as possible. Also activities necessary for using the production facilities as efficiently as possible are part of material management. *Physical distribution management* is often referred to as (outbound) logistics, which is a key enabler for SCM (Harisson en Van Hoek, 2002) as it is 'that part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from the point-of-origin to the point-of-consumption in order to meet customers' requirements' (Council of Logistics Management, 1998). This research aims at developing a service for managing supply chains of manufacturers exporting towards Asia and focuses on 'physical distribution management'.

Managing the supply of goods in a manufacturing company comprises of a circular process which consists out of commercial order management, development and construction, order acceptance and planning, purchase and materials processing, materials handling, production, materials handling and commercial storage and distribution. The final stage of this process encompasses all the activities

in the market environment of the firm from the end of the production line until delivery to the customer. These are the activities conducted in physical distribution management (Van Goor et al., 1993).

### 3.1.2 Customer Service Management

The starting as well as finishing point of logistics and SCM is the *customer* (Van Goor et al., 1993). Therefore marketing must play a critical role in successful SCM (Lambert and Cooper, 2000). The concept of 'Demand and Supply Chain Management' (Ploos van Amstel en Van Goor, 2001) states that there are two aspects to SCM namely purchasing as well as marketing and sales. Harrison en Van Hoek (2002) cite Gattorna (1998) who states that 'materials and finished products only flow through the supply chain because of consumer behaviour at the end of the chain'. The emphasis on the customer service perspective highlights a close relationship between marketing and logistics. *Marketing* is a series of plans and decisions that address how the philosophy of integrating the disparate activities and functions that take place within the network will be actioned (Harrison en van Hoek, 2002). 'It is probably easier to understand why executives would want to manage their supply chains to the point of consumption, because whoever has the relationship with the end user has the power in the supply chain' (Lambert & cooper, 2000).

Marketing and logistics interface when deciding on a direct or indirect distribution channel, making decisions regarding customer service and demand forecasting (Van Goor et al., 1993). The objectives of both departments therefore need to be integrated (Lambert & Cooper, 2000) and unambiguously aligned as depicted in *Figure 11* (Van Goor et al., 1999). Physical distribution, marketing & sales and service are all market interrelated primary activities (Porter, 1985). The 'market interrelatedness' of these activities again stresses the importance of having a focus on providing value for customers as these comprise the market. The impact of marketing, both towards the ultimate consumer as the manufacturer's customers, can even be diminished by the efficiency of the logistics system (Christopher, 1992).

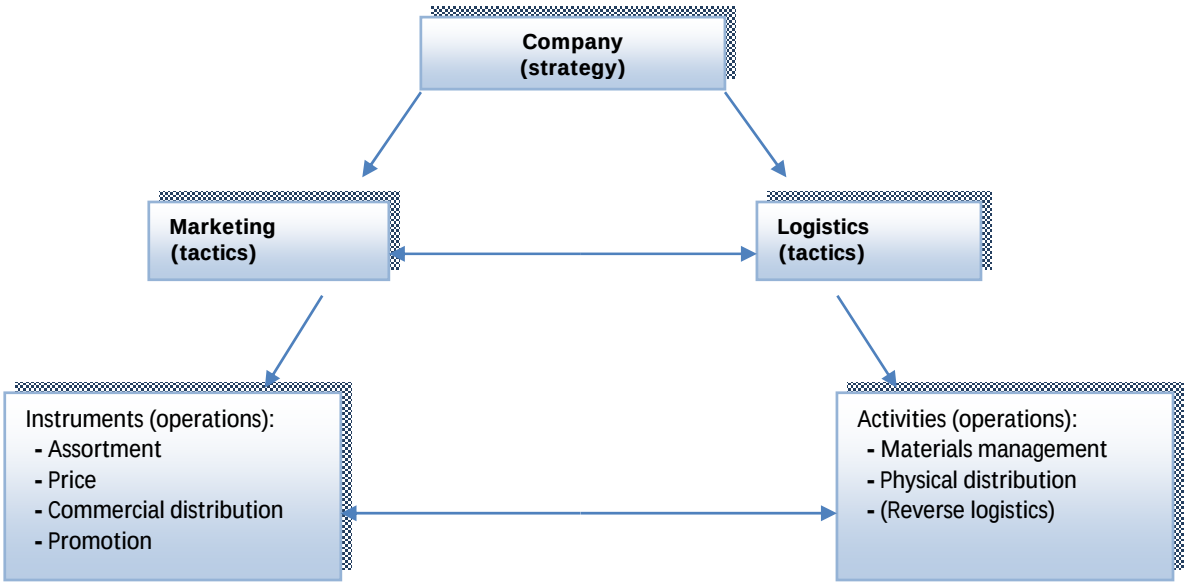



*Figure 11: Interdependence between marketing and logistics, Van Goor et al. (1999)*

In supply chain design providing *customer service* should be the point of attention in order to achieve sustainable competitive advantage (Christopher, 1992; Harrisson en van Hoek, 2002; Stadtler, 2008). Customer service in SCM is defined as a customer oriented organisational strategy which integrates and controls all elements within the interface with the customer, within a predefined optimum of costs and service (Van Goor et al., 1989). These elements can be pre-transactional, a company's activities preceding a contract, transactional, elements which contribute to order fulfilment in the eyes of a customer, and post-transactional, service provided once the order is fulfilled (LaLonde and Zinszer, cited by Christopher, 1992 and Stadtler, 2008). Characteristics of the core product – such as quality, product features, technology, durability etc – are surrounded and augmented by the customer service elements (Christopher, 1992).

Several authors mention the importance of keeping product characteristics in mind when managing supply chains. Fischer (1997) makes a distinction between functional and innovative products. Derived from his research, food (ingredients) can be classified as functional products which need a physically efficient supply chain design. Van de Vorst (2000, p. 30) states that, in designing food manufacturing supply chains, one should focus the concept of Efficient Consumer Response (ECR), in which distributors and suppliers work closely together to offer better value to the consumer. The focus should be on the efficiency of the total supply system, thereby reducing total system costs, inventories and physical assets while improving the consumer's choice. Tieman (2007) in his research on Halal logistics also recognizes this variability in supply chain design caused by the three clusters of product characteristics, customer requirements and the markets. These three clusters (van de Vorst, 2000) contain 14 ECR practices (Coopers and Lybrand, 1996) used for improving food manufacturer's SCM effectiveness.

### 3.1.3 Supply Chain Business Processes and Design

In SCM *eight business processes* can be identified (Cooper et al., 1997; Lambert and Cooper, 2000; Stock & Lambert, 2001) which are; customer relationship management, customer service management, demand management, order fulfilment, manufacturing flow management, procurement, product development/commercialization, and returns. The current state of the supply chain can be analysed by constructing an AS-IS model (Trkman et al., 2007) which is a visualized process map of the entire supply chain. *Figure 12* provides a clear overview of the concept of SCM thereby illustrating the key supply chain business processes which penetrate within the company and the other supply chain members as well as the information and product flows.

Specifically for SCM the following list of activities is established (Elmuti, 2002):

- Inventory management and control
- Transportation
- Facilities management
- Information technology including internet
- Overall logistics (raw materials, work in progress, finished goods, services and related information .. to customer requirements)
- Procurement and purchasing
- Distribution and/or sales of products or services (delivery)
- Manufacturing of components for the final product (production)

- Manufacturing of the final product as a whole
- Product design and development
- Outsourcing of certain functions (like HRM and information)

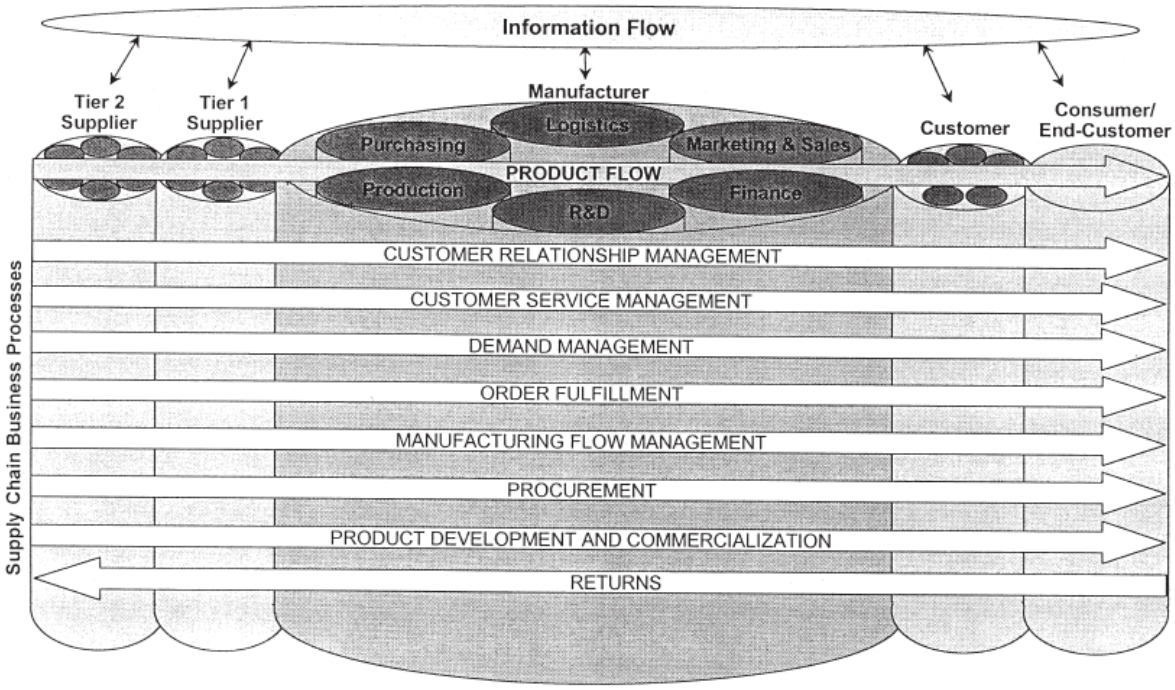



*Figure 12: Supply chain network structure, Cooper et al. (1997)*

The interrelated nature of SCM is reflected in *figure 12.* Lambert & Cooper (1997) emphasize this interrelatedness as well as the need to proceed through several steps to design and successfully manage a supply chain.

Stimulating collaboration between different companies in a supply chain is considered to be a key success factor (Lambert and Cooper, 2000; Trkman et al, 2007). This can be done by virtual integration; the substitution of ownership with partnership by integrating a set of suppliers through information technology (IT) for tighter supply-chain collaboration (Wang et al, 2006).

For supply chain design the SCM framework of Lambert and Cooper (2000) can be used which consists of three closely interrelated elements: the supply chain network structure, the supply chain business processes, and the SCM components (*Figure 13)*. This can be visualized by constructing a TO-BE model (Trkman et al., 2007), wherein collaboration between companies is depicted at a process level. Mapping business processes is also the method used by Van de Vorst (2000) by which he aims to design effective food supply chains. Ultimately, these integrated process models can lead to an extended supply chain process where deep mutual trust is established between different tiers in the supply chain.

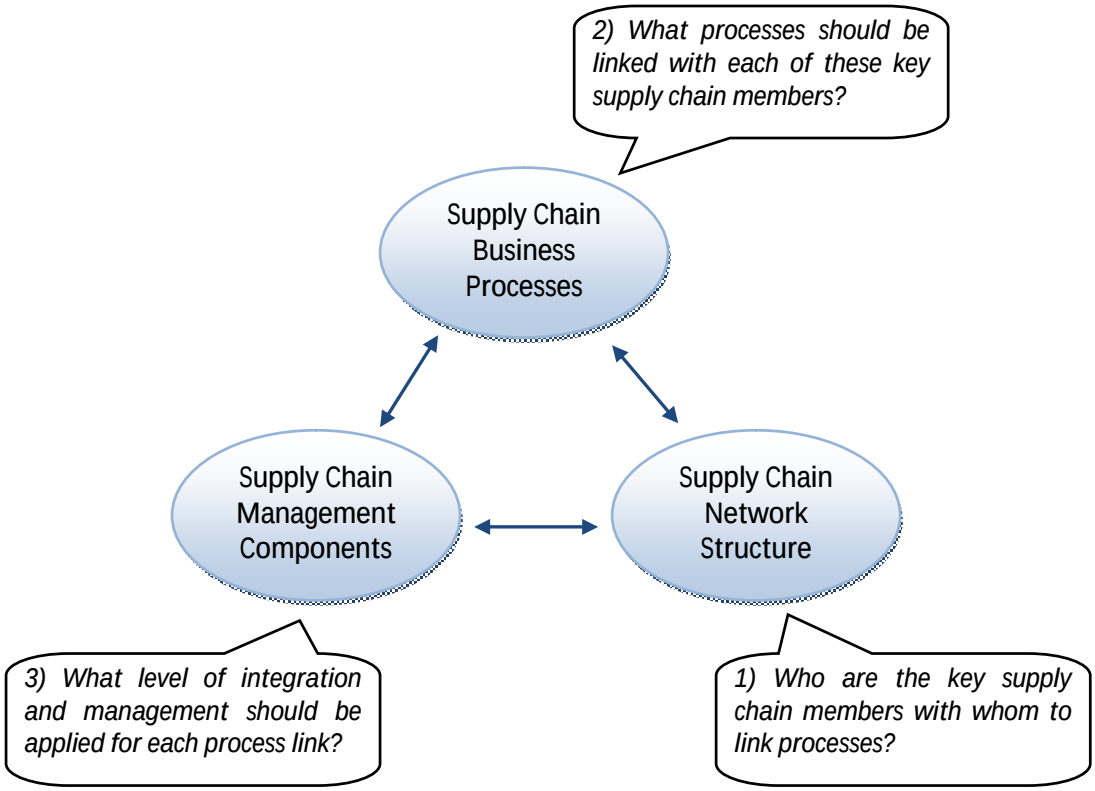



*Figure 13: Supply Chain Management Framework, Lambert & Cooper (2000)*

Van de Vorst (2006) adds a fourth component to this framework, namely the Supply Chain resources, otherwise know as the ICT-systems, human resources and technology used by each supply chain member.

According to Lambert and Cooper (2000) there are nine management components of successful SCM which can be divided in two groups:

1. Physical & Technical management components
   - Planning and control: extent of joint planning / the control aspects can be operationalized as the best performance metrics for measuring SC success;
   - Work structure: how the firm performs its tasks and activities
   - Organisation structure: can refer to the individual firm and the supply chain. The use of cross-functional teams would suggest more of a process approach. When these teams cross organisational boundaries, such as in plant supplier personnel, the supply chain should be more integrated.
   - Product flow facility structure: the network structure for sourcing, manufacturing, and distributing across the supply chain.
   - Information flow facility structure: this is the key. The kind of information passed among channel members and the frequency of information updating has a strong influence on the efficiency of the supply chain.

2. Managerial & Behavioural Management components
   - Management methods: includes the corporate philosophy and management techniques.
   - Power and leadership structure: will affect the supply chain form. In most chain studies, there are one or two strong leaders among the firms. The exercise of power, or the lack thereof, can affect the level of commitment of other channel members. Forced participation will encourage exit behaviour, given the opportunity.
   - Risk and reward structure: affects long-term commitment of channel members.
   - Culture and attitude: meshing cultures and individuals' attitudes is time consuming, but it is necessary at some level in order for the channel to perform as a chain.

### 3.1.4 Challenges in SCM

Challenges are imposed on SCM by globalization. This affects managers who design supply chains for existing and new product lines (Meixell and Garyega, 2005). Global supply chains are perceived to be more difficult to manage than domestic supply chains (Dornier et al., 1998; Wood et al., 2002; MacCarthy and Atthirawong, 2003, referred to by Meixell and Garyega, 2005). Geographical distances increase transportation costs, but also complicate decisions because of inventory cost tradeoffs due to increased lead-time in the supply chain. The effectiveness of business processes such as demand management is further affected by differences in local cultures, languages, and practices. Also, infrastructure in developing countries, such as in transportation and telecommunications, as well as inadequate worker skills, supplier availability, supplier quality, equipment and technology can provide challenges normally not experienced in developed countries. Due to these challenges a global supply chain does not necessarily provide a competitive advantage (Meixell and Garyega, 2005). Other risks of global supply chains that influence performance are variability and uncertainty in currency exchange rates, economic and political instability, and changes in the regulatory environment (Dornier et al., 1998, referred to by Meixell and Garyega, 2005).

In order to overcome supply chain issues enhancing collaboration schemes and deploying new technologies are considered as relevant methods. Other ways to overcome supply chain issues are better forecasting, optimizing warehouse management, deploying a demand driven supply chain and outsourcing supply chain operations (Eyefortransport, 2006). These ways to overcome supply chain issues are inherent to the belief that most SCM-related problems stem from either uncertainties or an inability to co-ordinate several activities and partners (Turban et al., 2004). Dealing with these issues by SCM outsourcing will be elaborated on in the next section.

## 3.2 Providing SCM Services by Business Process Outsourcing

Outsourcing can be defined as the procurement of products or services from sources that are external to the organisation (Lankford and Parsa, 1999). The definition of business process outsourcing (BPO) used in this research is that it concerns business processes or functions being managed by a third party together with the information technology that supports the process (Halvey and Murphy Melby, 2007).

BPO has benefits for companies like costs savings, a greater ability to concentrate on a companies' core business, the implementation of wide initiatives, possible sales of assets, greater resources to move to new environment and/or systems in a faster time frame, attaining more and/or varied skills and resources, better access to new methodologies and/or technology, reduction of training expenses and greater flexibility (Halvey and Murphy Melby, 2007).

From a service provider's perspective, BPO represents the single most important growth opportunity available in today's marketplace. McKinsey (2007) estimates that there is already USD 3 trillion worth of business functions that can be outsourced and that the market continues to grow. Forrester (2006) predicts that total spending will rise from €11.0 billion in 2006 to €18.9 billion in 2011. Another source states that the demand for global BPO services is growing at a rate of 13 to 15 percent compound annual growth rate (Contract Management, January 2005).

### 3.2.1 Why Outsourcing?

Halvey and Melby (2007) identified the following objectives for BPO in general; concentrating on core capabilities, implementing a variable cost approach, obtaining an immediate cash infusion, improving overall performance, efficiency and customer satisfaction, keeping pace with industry trends, providing access to new methodologies and/or technology, reducing and/or sharing risks, implementing tools for growth, obtaining new or additional resources, providing flexibility to increase or decrease resources. However, objectives for outsourcing one or more business processes will vary on a deal-to-deal basis. The objectives are typically shaped by management's overarching goal in outsourcing, i.e. transition to new methodology or technology or reduction in costs or expenses (Halvey and Murphy Melby, 2007).

Several authors maintain the opinion that activities critical to a firm's success and which are considered to be 'core competences' of the organisation should be not be outsourced (Conner, 1991; Bolumole et al., ….; Van Moorst & van Wel, 2006). However, non-core processes that are inefficient, too costly, or difficult to manage can be turned over to a vendor (Halvey and Murphy Melby, 2007). So, when logistics are critical to success but not an organisation's core competence, neither has the organisation resources available in-house to perform its logistics then outsourcing should be considered (*Figure 14*). As mentioned in the background of this research in response to consumer demand for food safety, effective SCM has become a 'unique selling point' for many foods (Hollandtrade.com, May 2008). When logistics is not a core competence of these organisations smart sourcing can be an option.

The decision whether or not to outsource is typically made by senior management and can be based on an organisation wide directive to outsource non core business processes or in an effort to globalize business processes throughout the organisation. The managers responsible for the business process that is considered a candidate for outsourcing typically target outsourcing as an option when wanting to reorganize all or part of the business department, as a means to cut business process costs, in an effort to enhance performance and/or in order to provide lacking expertise/experience (Halvey and Murphy Melby, 2007).

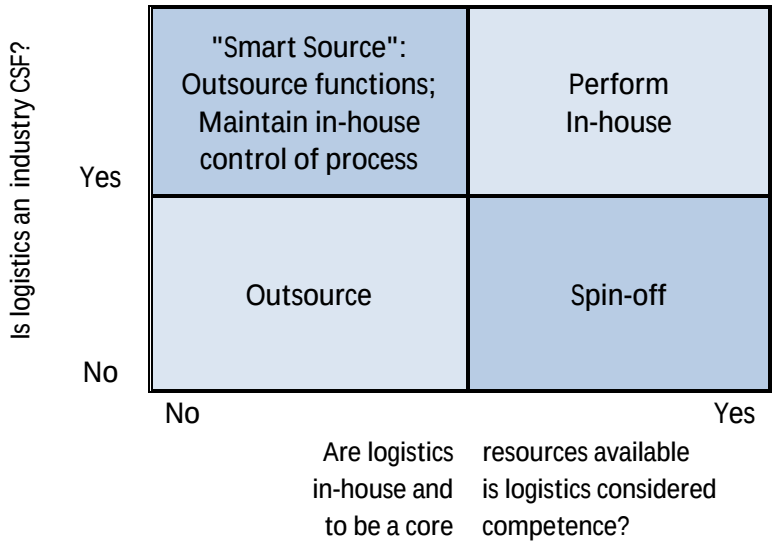



*Figure 14: Logistics Outsourcing Matrix, Bolumole et al.*

The reasons underlying a company's decision to evaluate outsourcing as an option will affect the process, timetable and substance of the transaction. If, for example, the go-ahead to consider outsourcing comes from management of the business process and the primary objective is to improve performance; there may be a lengthy evaluation and negotiation process (Halvey and Murphy Melby, 2007). But when senior management has decided to outsource noncore capabilities, it may spend only limited resources on assessing benefits versus risks of outsourcing and move quickly to the request for proposal or vendor selection stage.

### 3.2.2 Partnerships in Outsourcing

Critical success factors for partnerships in outsourcing were identified by Van de Vorst (2000). His findings derived from literature on partnerships in marketing, contract law, economics and logistics are summarized in *Table 5.*

Foreign outsourcing partners are not so much selected on price but on the value they add. This involves service quality, customer friendliness, employee skills, similarities in norms and values between the companies. A physical encounter is believed to remain essential for establishing a good relationship (FD Outlook, 22 September 2008).

| Drivers for partnerships | Main partnership facilitators | Successful partnership characteristics |
|---|---|---|
| • Asset-cost efficiencies (cost reduction)<br>• Customer service (e.g. shorter cycle time)<br>• Marketing advantage (e.g. entrance into new markets)<br>• Profit stability/growth | • Strategic complementarity<br>• Corporate compatibility (culture and business goals)<br>• Compatibility of managerial philosophy and techniques<br>• Mutuality (joint objectives, share sensitive information)<br>• Symmetry in power | • Joint planning<br>• Global SC operating controls<br>• Systematic operational information exchange (rapid and accurate transfer)<br>• Sharing of benefits/burdens<br>• Trust and commitment<br>• Extendedness (the relationship will continue into the future)<br>• Corporate culture bridge-building |

*Table 5: Critical success factors for partnerships, Van de Vorst (2000)*

### 3.2.3 Outsourcing Logistics and SCM

In 2005 most spending in BPO was on logistics and procurement with an estimated total of USD 179 billion (BusinessWeek, January 2006). Logistics outsourcing typically involves the acquisition, handling and/or transportation of goods whilst procurement outsourcing covers some or all aspects of noncore purchasing and supplies management, i.e. product selection, packing, warehouse management and help desk services (Halvey and Murphy Melby, 2007). The reduction of costs and increasing focus on core competences are key drivers for outsourcing logistics and SCM. The traditional model where companies manage their entire supply chain is rapidly abandoned (Moorst, A. van, and Wel, P. van, 2006). Other key drivers are increasing customer satisfaction, increasing speed of services, improving SCM, reducing staff headcount, globalizing the supply chain and the lack of in-house skills (Eyefortransport, 2005) and making fixed costs variable, lowering investments, improving quality and lowering risk of damage (Ploos van Amstel, 2005).

In logistics and SCM outsourcing a distinction can be made between third party logistics providers (3PL) - also referred to as logistics service provider - and fourth party logistics providers (4PL). The latter was created and defined by Anderson Consulting as 'an integrator that brings together the *resources*, *capabilities* and *technology* of both its own organisation and other organisations to design, build and run complete supply-chain solutions' where 3PLs are considered to manage outsourced logistics, transportation and distribution activities on behalf of the shippers or customers whose business processes they support.

Eyefortransport (2006b) examined that supply chain design holds the second best opportunity for growth in the European 3PL market by 25 per cent. Chances for growth in the 3PL seem to shift from offering low profit, commodity services, like warehousing and packaging, towards value-adding activities (Rushton and Walker, 2007). When seen from the perspective of the logistics service provider (LSP) to act as a fourth party logistics (4PL) provider is considered the sixth opportunity for growth in the European 3PL industry (Eyefortransport, 2006b).

One difference between 3PL and 4PL is that the 4PL has an asset-free approach and works horizontally across the supply chain thereby using the services of 3PLs to provide end-to-end solutions for customers (Rushton and Walker, 2007). The 4PL can act neutral in terms of asset allocation and utilization. Hereby it takes the shipper's perspective and uses the best operators. 3PLs are considered to use their own assets. Another difference is that 3PLs manage the distribution process where 4PLs manage, design, develop and steer physical distribution (Ploos van Amstel en Van Goor, 2001) by the three elements of process, people and technology (Craig, 2003).

The 4PL tries to satisfy and retain its customers by understanding customer requirements and providing end-to-end solutions based on sound processes that address its customer's overall supply chain needs. The 4PL will often position itself as an extension of the customer while owning only its own IT systems (Rushton and Walker, 2007). In order to manage across the strategic, tactical and operational level of its clients organisation the 4PL operating model is constructed to support activities and functions such as supply chain engineering, sales and operations planning, distribution management, customer support etcetera (Rushton and Walker, 2007).

Not many companies truly operate as a 4PL; they are often 3PLs operating by their own assets. These mostly large players often offer proclaimed 'supply chain solutions'. But there seems to be a growing dissatisfaction with the 3PL services. The 3PLs have to battle against the growing disloyalty of customers who may sometimes switch from one provider to another if it means getting a better deal and a better price (Rushton and Walker, 2007). 4PLs will need to make a positive distinction towards their clients to assure them of the real added value that their type of engagement can bring, as the perceived cost will be higher. At the same time, they will need to ensure that they can effectively deliver the promised value proposition across the model, thus implementing the 4PL fundamentals along the supply chain (Frost.com, June 2008).

There are few 4PL operations that have been run by consultants but the strength of execution required often seemed to withhold them from operating effectively. A form of joint venture between a consultant and 3PL can possibly provide a good solution (Rushton and Walker, 2007).

There are believes that the logistics industry in Europe is being too cautious in its forecasts for the 4PL market (Frost & Sullivan, 2008). Some still claim that this is a very good theoretical concept, which is just not feasible in practical terms. But similarly to the 3PL market, which has grown despite negative forecasts, the 4PL market will take off. A number of companies are already offering these types of services and an equal number are considering them as business options. As this concept becomes more of a market reality, companies will just not want - and will not be able to afford - to miss out on it.

However, 3PL providers remain pivotal to success of the 4PL provider as its model is based on the Best-of Breed approach. This implies selecting and incorporating partners which will provide the best services and ultimately help the 4PL provider support their value proposition to shippers. In a tough environment, where 3PLs are struggling with their margins, 4PL is definitely not everybody's cup of tea. This is because the move towards the 4PL model does involve not only entering a risk-reward scheme with the shipper but it also requires that the candidate has certain essential capabilities, namely extensive IT skills, management capabilities and branch specific know-how (Frost & Sullivan, 2008).

### 3.2.4 Implications of BPO

Specialization through outsourcing has important implications for value creation by a company. This stems from the reasoning that owning the customer relationship is a key enabler for extracting value. Value creation by relationship management includes such activities as offering superior service to the customer, obtaining data on customer transactions and relationships. If applicable, owning the technology and/or infrastructure can also be important value drivers (Lovelock and Wirtz, 2007).

The most important reasons not to outsource to a 3PL are that companies consider logistics to be their core competency, see logistics as too important to outsource, believe that costs will not be reduced or are afraid they will suffer loss of control (Capgemini and Langley, 2004). Loss of control is considered a risk of outsourcing in general, as well as difficulties in managing costs, additional liability, perceived difficulty with bringing business processes back in-house and reduced flexibility (Halvey and Murphy Melby, 2007). When large Western companies cannot find a suitable outsourcing partner they often set up their own business unit abroad (FD Outlook, 22 September 2008).

If companies decide to outsource one or more business processes a number of issues can emerge with respect to the integration of the services and systems provided by the BPO vendor with those used in connection with other business processes provided internally or by a third party. System integration issues can occur because the LSP or 4PL introduces new technology and methodologies that are specific to the business process outsourced. Also, the management of the various outsourcing vendors can cause difficulties (Halvey and Murphy Melby, 2007). It is claimed that, when entering a logistics-outsourcing project, shippers want one company and one point of contact to do it all. This can be linked to the desired supply chain visibility (Frost & Sullivan, 2008).

## 3.3 Conclusion: Concept Development Design Criteria Based on Theory

Thus this section will identify design criteria for the new service derived from literature analysis. In order to analyse the required data a comprehensible model with conclusions regarding the content of the new service is provided (*Figure 15*).

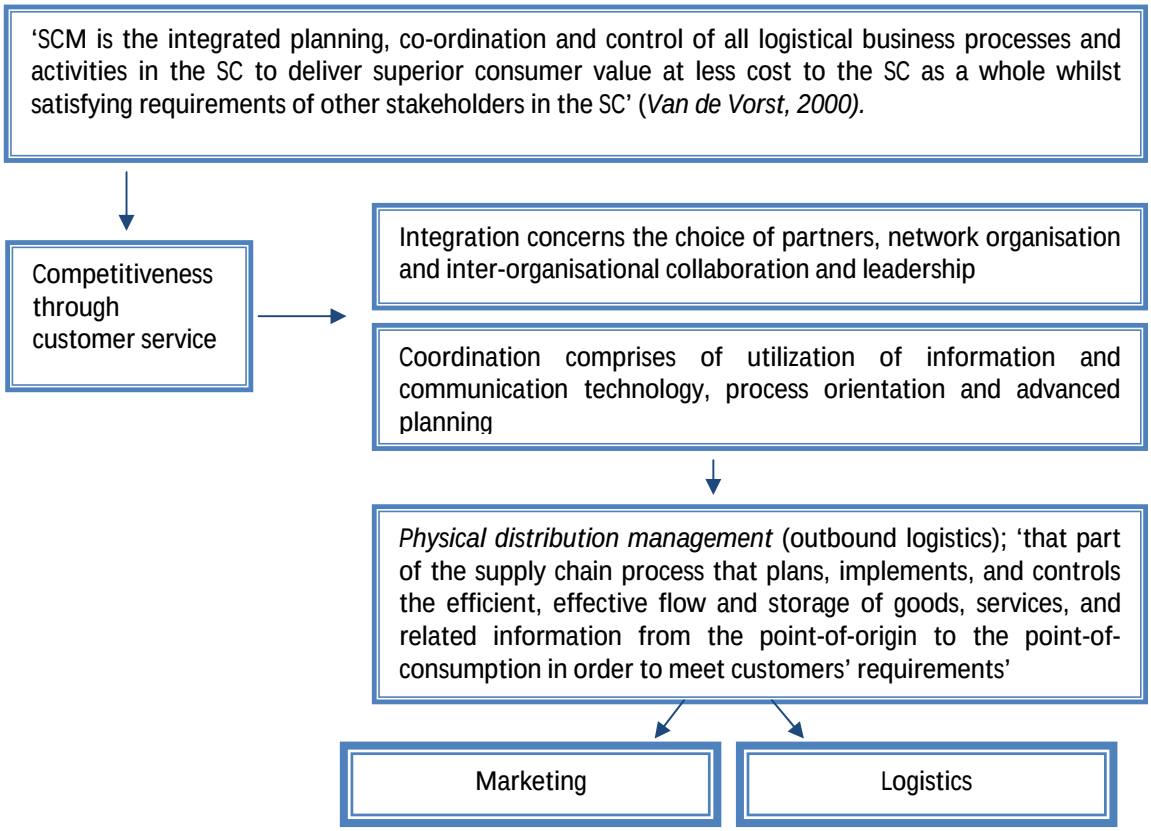



*Figure 15: Theoretical stimuli regarding content of the new service*

Secondly ideas regarding the reasoning behind the new service are modelled (*Figure 16)*.

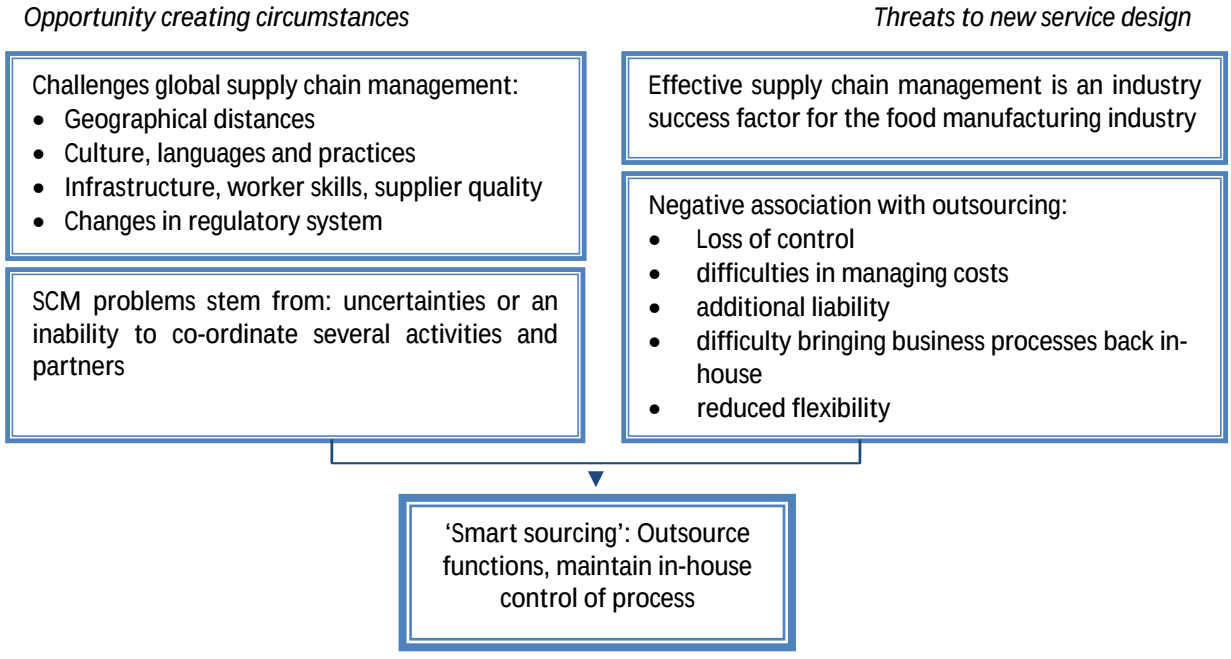



*Figure 16: Theoretical stimuli regarding positioning of new service*

Thirdly, stimuli regarding the type of partnership in smart sourcing are presented (*Figure 17)*.

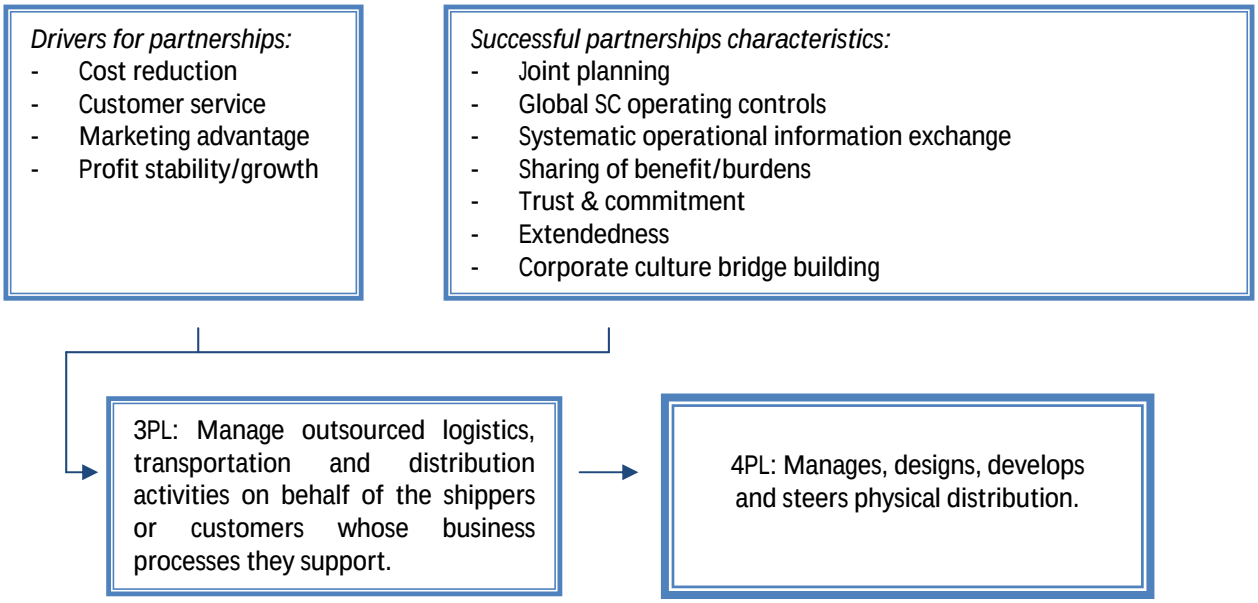



*Figure 17: Theoretical stimuli regarding type of partnership in smart sourcing*

So LBB Teams aims to offer *SCM services*. It aims to integrate planning, co-ordination and control of all logistical business processes and activities in its client's SC. It aims to deliver superior consumer value at less cost to the SC as a whole whilst satisfying requirements of other stakeholders in the SC (Van de Vorst, 2000).

Derived from the literature analysis it is concluded that the focus of the new service should be on *physical distribution management*. Herein logistics and marketing services should be offered since these processes closely interfere. The target group of the service are companies which do not consider managing EurAsia SCs to be their core competence or experience difficulties in doing so.

Literature identified that LBB Teams can offer a 4PL partnership. A 4PL provider is defined as an integrator that brings together the resources, capabilities and technology of both its own organisation and other organisations to design, build and run complete supply-chain solutions in order to reduce total systems cost. A characteristic of a 4PL is that it can operate asset-free whereby it uses services of 3PL providers. By this way of operating LBB Teams will proclaim to improve its customer's SCM.

However, becoming successful as a 4PL is a burdensome and risky process because it requires strength of execution, managerial knowledge and entering risk-reward schemes. Also, potential customers can be reluctant to outsource all of their physical distribution processes at once. This can derive from fearing loss of control, difficulties in managing costs, additional liability, and difficulties with bringing business processes back in-house or reduced flexibility.

A good relation with the end consumer is considered crucial for marketing success. This can be substituted for by conducting operations as part of the client (in sourcing of knowledge). Hereby extendedness is created which is important for success of partnerships.

Another important success factor in partnerships is establishing trust & commitment. In order to establish trust and show commitment towards clients the researcher recommends operating by a step-by-step approach; i.e. managing, developing, designing and steering SCM processes one at a time. This will also enable gaining knowledge on how to operate successfully as a 4PL. This will initially disable these companies from acting as a 'true' 4PL which integrates and runs complete SC solutions but it also reduces risks. Operating as a 4PL might be possible if success is achieved in managing all SC processes individually. Knowledge can then be integrated in order to offer a 'total solution' package.

# CHAPTER 4 INTERNAL ANALYSIS

## Introduction

This chapter elaborates on the requirements for the new SCM service. Input for this analysis derived from discussions with the CEO of LBB Teams on the goal for the new service and characteristics of the company.

## 4.1 Firm Resources of LBB Teams

A goal for LBB Teams SCM solutions was defined in section 1.1. In this section organisational characteristics enabling and/or putting limitations upon the service design will be described.

### Intellectual Resources

LBB Teams' operations are conducted in Kuala Lumpur by a multicultural team, aware of the Asian as well as European culture. The company currently employs three fulltime employees; Ir. Marco Tieman, CEO, Ms Nahriah Baharin, personal assistant of Ir. Tieman and responsible for finance and administration, and Ms Grace Kenneth, responsible for marketing & sales and projects. Besides its fulltime employees LBB Teams assigns employees and trainees based on current projects.

Ir. Tieman is Dutch and obtained his MSc degree in Industrial Engineering & Management Science with a specialisation in Logistics at the University of Twente, The Netherlands. He is currently performing a PhD in Halal Logistics at Universiti Tecknologi Mara, Malaysia, in collaboration with Wageningen University, the Netherlands. His previous functions are:

- Managing director with MDS Logistics, Malaysia;
- Logistics researcher with TNO Inro, the Netherlands;
- Senior Consultant SCM & E-business, Magnus Management Consultants, Malaysia & the Netherlands;
- Logistics Consultants, Equal Partners, the Netherlands;
- Associate Consultant, MDS Trans Asia, Malaysia.

Ir. Tieman is a pioneer and guru on Halal Logistics and SCM. He has been having frequent contact with important Halal authorities worldwide. Also, he is a writer for The Halal Journal on Halal Logistics subjects and he is a frequent speaker on Logistics and SCM topics at forums (i.e. Halal World Forum), conferences and universities in Malaysia and abroad.

LBB Teams knowledge base originates from its background in consulting and research in logistics and SCM. The track record of the company consists of projects in the following areas:

- Design of logistics control systems for complex supply chains, such as agriculture, Halal supply chains and 3PL/4PL systems.
- Analysis and design of industrial clusters performed for the feasibility & design of industrial parks, logistics parks and the Halal Hub & Park development in different parts of the world.

### Organisational Resources

LBB Teams consists out of three divisions: consulting, research and SCM. The company has a flat organisational structure which enables fast decision making. The company is currently under transformation. Until June 2008 it operated as MDS Logistics, but is now independent. The consequence of becoming independent is that it has to gain new projects and assign personnel based on projects realized.

LBB Teams' network in Europe and Malaysia is supported by its membership of several business councils. Among these are the Malaysian Dutch Business Council (MDBC) and the Malaysian-German Chamber of Commerce (MGCC). LBB Teams is also a member of the EU-Malaysian Chamber of Commerce and Industry (EUMCCI). These organisations aim to support and promote business between Malaysia and their home country.

LBB Teams operates by a fixed fee. It normally gets paid a percentage before operations, a part during operations and the rest upon delivery of the projects they are assigned for. During operations it thus has limited income while it continues paying for its costs. This can lead to a negative cash flow. LBB Teams has limited capital which makes banks reluctant to offer credit to the company.

### Physical Resources

LBB Teams has its head office and registration at the Chamber of Commerce in The Hague. The company conducts its operations from its office in Kuala Lumpur and has established a representative office in Bangkok. The Netherlands are approximately 4 times per year visited by members of LBB Teams.

The company does not operate by owning assets like office facilities, trucks etc. Operations in Kuala Lumpur give the company the advantages of having access to low cost facilities and low travel costs in Asia. LBB Teams rents office facilities as well as a staff house in Kuala Lumpur which can house three employees.

## 4.2 Conclusion: Ideas by Goal Definition and Firm Resources

When looking at organisational characteristics LBB Teams' core competence can be found in consulting and research. Because of its extensive knowledge base in SC design and improvement (in particular on agricultural, food and chemicals), Halal logistics and supply chain management and analysis and design of industrial clusters it is reccommended to include these services in the new service design.

Strength derives from its EurAsian team; this enables conducting business in multiple languages and cultural sensitivity is present. Further LBB Teams' office locations enable it to serve clients in Asia as well as Europe, herein not being burdened by different time zones and being able to establish face-to-face contact. Thus there are options to serve European as well as Asian companies. Its location in Kuala Lumpur further offers the advantage of operating in a low cost environment.

Because LBB Teams assigns employees and trainees based on projects realized it can offer a wide range of SCM solutions. Knowledge can be assigned whenever necessary. This construction allows for low personnel costs. Together with the low cost environment it can reduce operating costs for its clients.

There are also some obstacles which need to be taken into account when designing the service. First of all, LBB Teams lacks operational experience. It does not yet know how to manage supply chains. Related to its lack of operational experience is that it does not have an integrated partner network over Asia. Brand awareness of LBB Teams SCM solution is not yet established and the company is relatively small. This results in a lack of purchasing power in transportation and warehousing which make LBB Teams unable to compete on price on this aspect. Next it does not have working capital which disables it to finance Asia operations or invest.

These limitations combined with its core competences lead to the conclusion that *consulting & research* will be the initial value adding of LBB Teams. This competence enables it to improve SC performance. I.e. this can include decreasing waist and/or enhancing sales. Because LBB Teams 'injects' knowledge into the client it will enable its clients to become (more) successful in Asia. Once this improvement is achieved clients may opt to take regain these processes in house.

But LBB Teams aims to provide *supply chain management* services. Because of its lack of operational experience and its weak capital position it is not feasible to provide total management solutions. So, it should start by designing, managing and improving elements of its customers EurAsia SCs. It will operate value adding by establishing arms-length control in a fast growing market. This way of operating offers risks reduction to its clients, i.e. by preventing fiddling of resources in Asia. Other risk reducing aspects it can provide are low entry and exit costs. These low costs are acquired by low fixed costs, low costs of facilities in Asia, low travelling costs in Asia and the absence of employees requiring expatriate salaries.

# CHAPTER 5 CUSTOMER DESIGN INPUT

## Introduction

In order to identify customer requirements initially semi-structured interviews with representatives from the post-harvest industry were conducted in the Netherlands as well as in Asia. All respondents are representatives of large companies, having either established sales offices, production locations and/or their own business units in Asia. Therefore results cannot be subdivided between companies being or not being physically present in Asia.

Interviews were conducted at the office locations of the respondents. The respondents were Mrs. A. van Baal, export manager nutrition at Nestlé Nederland b.v., Mr. P. Berkien, Manager SC Planning EMEA at Herbalife International, Mr. T. Boekholt, global supply chain planner at Purac, Mr. J. de Bruin, Manager Warehousing & Ordermanagement at Campina Holland Cheese, Mrs. A. Chevalier, Logistics Manager at DSM Food Specialties, Mr. P. Roerig, Manager Supply Chain at Friesland Foods, Mr. S. Sinha, Manager Planning & DSG for South Asia at Givaudan, Mr. H. de Vries, General Manager Far East and Mr. R. van der Putte from Friesland Foods Domo and Mrs. D. Wind, responsible for support in customer service, sales and marketing at Trouw Nutrition HiFeed.

Nestlé Nederland b.v., Herbalife International, Campina Holland Cheese and Friesland Foods are categorized as Food Manufacturing (FM) companies. Purac, DSM Food Specialties, Givaudan and Friesland Foods Domo are Food Ingredient Manufacturers (FIM) and Trouw Nutrition HiFeed is an animal feed manufacturer (AFM). The FMs participating in this research export dairy and high quality specialty products (dietary, allergy free products) towards Asia. FIMs participating in this research produce lactic acid, flavours and fragrances for dairy, beverages and savoury ingredients.

During interviews the researcher aimed to identify critical success factors (CSFs) and obstacles of the respondent's SCM for Asia operations. Also respondent's opinions and practices concerning outsourcing of SCM to a 3PL or 4PL were gathered. These results are presented in this chapter as they contribute to idea creation of the new service.

In analysis the researcher tried to establish linkages between the collected primary data and secondary data derived from the research of Elmuti (2002). The table is provided in *Appendix F.* Answers are subdivided to SCM activities as described in *section 3.1.3*. Aspects related to market intelligence and costs are identified in this research which could not be subdivided to Elmuti's categorization and are therefore added to his SCM activities.

## 5.1 Success Factors Food Manufacturer's SCM

The respondents were asked what they considered to be critical success factors of their company's SCM in Asia in order to identify which product features are particularly valued. The 9 respondents identified a total number of 51 CSFs. Most CSFs are to be found in distribution and/or sales of the products. Graphically, the results are depicted in *Figure 18.*

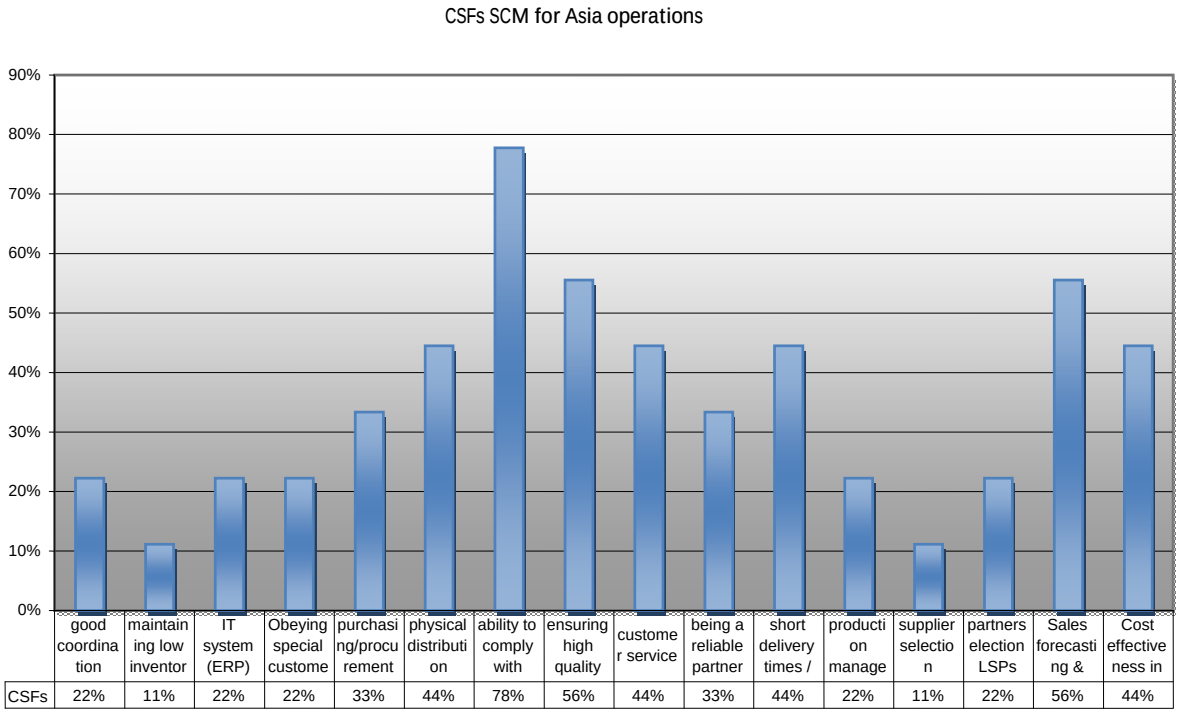



*Figure 18: Graphical representation CSFs SCM for Asia operations*

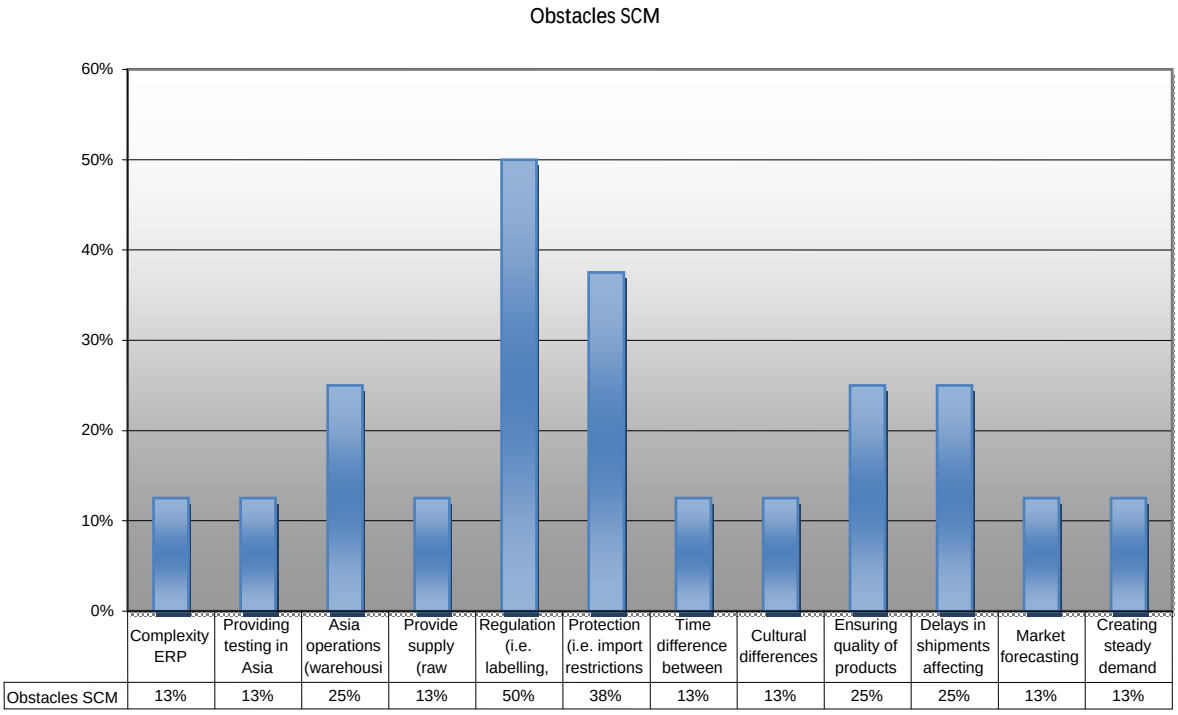
Findings are that respondents consider overall distribution and/or sales of products in general a CSF of SCM (*Appendix F).* More specifically the following 'top three' of CSFs in SCM can be constructed:

1) Ability to comply with formalities
2) Ensuring high quality of products during transportation
   Sales forecasting / market intelligence
3) Physical distribution
   Customer service
   Short delivery times / JIT-delivery
   Cost effective SCM

A graphical representation of the aggregated elements, as identified by Elmuti, is presented in *Appendix F*. What shows is that *distribution and/or sales of products*, referring to the process of delivery is most highly valued as a CSF. Also *sales forecasting* and *market intelligence* obtain good scores as CSFs.

## 5.2 Obstacles Food Manufacturer's SCM

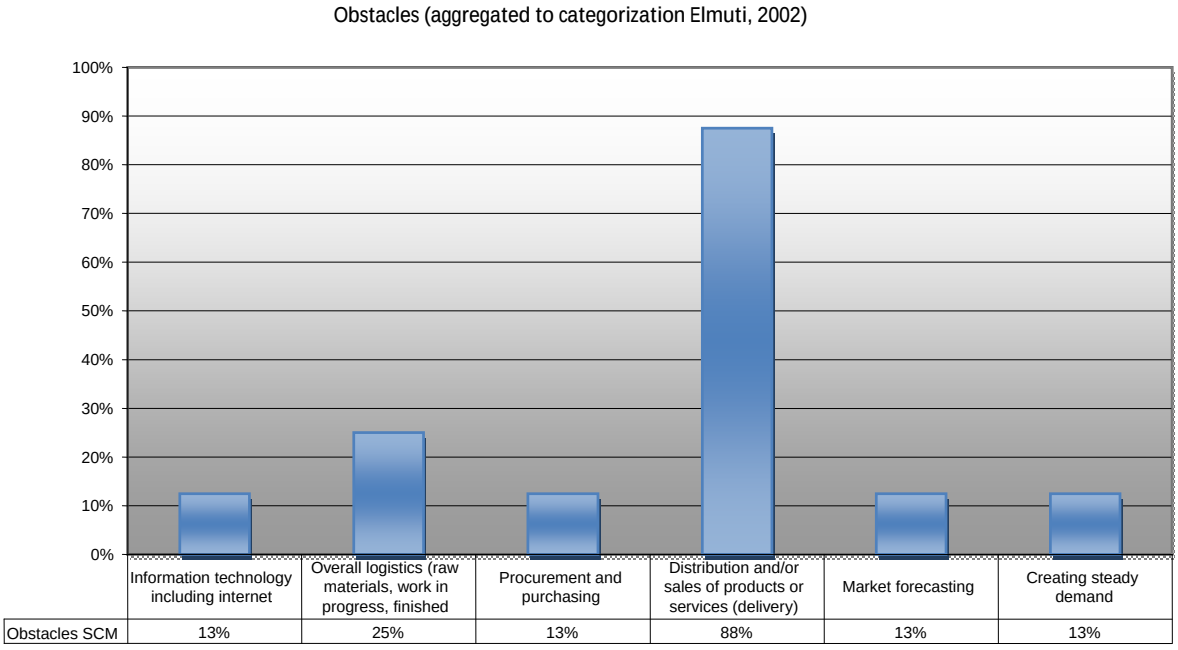
Next obstacles are identified in order to find out which problems LBB Teams can solve for its customers. A total number of 20 obstacles were identified by the 9 respondents. The number of obstacles identified per respondent differs considerably; from 0 to 8 obstacles. The respondent which did not identify any obstacles is left out of the research. Percentages are based on the 8 respondents which did identify obstacles (*Figure 19)*.




| | Complexity ERP | Providing testing in Asia | Asia operations (warehousi | Provide supply (raw | Regulation (i.e. labelling, | Protection (i.e. import restrictions | Time difference between | Cultural differences | Ensuring quality of products | Delays in shipments affecting | Market forecasting | Creating steady demand |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Obstacles SCM | 13% | 13% | 25% | 13% | 50% | 38% | 13% | 13% | 25% | 25% | 13% | 13% |

*Figure 19: Obstacles in SCM for Asia operations*

Regulations regarding labelling and/or validation of products cause most obstacles in SCM of the respondents. Secondly protectionist measures cause problems. Thirdly managing Asia operations, ensuring high quality of products along the SC towards Asia and delays in shipments impose obstacles. Most obstacles are found in distribution / delivery of the product. *Figure 20* depicts this even more clearly.




| | Information technology including internet | Overall logistics (raw materials, work in progress, finished | Procurement and purchasing | Distribution and/or sales of products or services (delivery) | Market forecasting | Creating steady demand |
|---|---|---|---|---|---|---|
| Obstacles SCM | 13% | 25% | 13% | 88% | 13% | 13% |

*Figure 20: Categorization of obstacles*

## 5.3 Requirements LSPs

When asked what respondents expect from their LSP respondents provided the following answers (*Table 6)*.

| Requirements LSP | *N= 7* |
|---|---|
| Low costs | 14 % |
| Good partnership (reliable partner) | 29% |
| Qualitative requirements (food related) | 71% |
| Suggestions for improvement | 43% |
| Fast response / operational flexibility | 14% |
| Ability to cope with formalities | 14% |

*Table 6: Expectations of LSP*

Complying with qualitative requirements which are food related, i.e. temperature controlled transportation or hazardous qualified transportation (in case of food ingredients) is considered to be the most important requirement of the LSP. Further, initiating suggestions for improvement is highly valued by the respondents. Also good partnership, as in keeping up promises and adhering to intellectual property rights is required of an LSP.

## 5.4 SCM in Asia

The way the respondents organize their SCs towards Asia is presented in *Table 7.*

| EurAsia SCs | *N=8* |
|---|---|
| Direct distribution from factory | 38% |
| Distribution from hub/supply point in Europe | 63% |
| Production and distribution in Asia | 25% |

*Table 7: Organisation of SCM in Asia*

Findings are that FIMs relatively distribute more direct from the production location whereas the FMs use distribution centres (*Figure 21)*. This may have to due with the nature of the products, i.e. the FIMs indicated that they mostly produce bulk where FMs produce a more varied range of products which they ship in smaller amounts. However, no empirical evidence for this reasoning was found. Results reveal that mostly supply for Asia is arranged from the Netherlands and direct shipments are made. Only two respondents use a regional distribution hub in Asia besides direct shipments from production location and/or distribution centre in Europe.

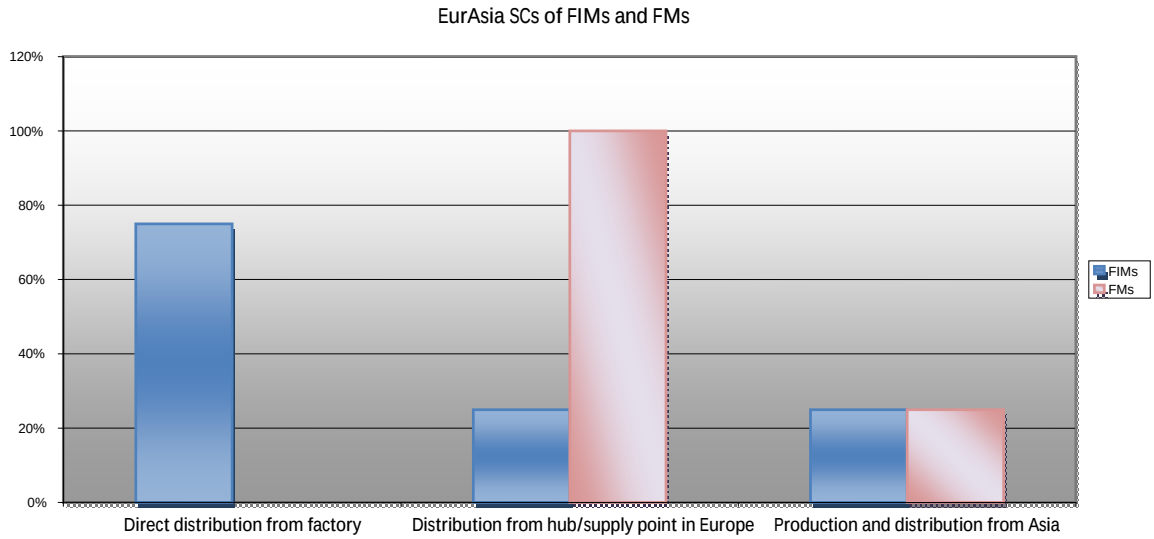



*Figure 21: Graphical presentation of organisation of SCM in Asia*

Respondents were also asked by which partnerships they organized distribution towards Asia (*Appendix F).* Results reveal that only one company has contracted its (outward) logistics to a 4PL. Other respondents operate by contracting 3PLs. A third of the respondents conduct distribution to or in Asia from its own distribution centre or office location in Asia.

The respondents which companies already established production locations and/or sales offices in Asia were asked why the company choose to do so. The respondents provided the following answers:

- Market intelligence reasons
  - § information on market
  - § get to know competitors and act on their strengths and weaknesses
  - § maintaining up to date about industry developments
- Customer service
  - § Same time zone
  - § Faster response to changing conditions
  - § Develop cultural understanding regarding customer

## 5.5 Additional Remarks

Besides the success factors and obstacles of SCM in Asia, also other remarks made during the interviews and subsequent discussions with the CEO of LBB Teams are noteworthy because these contribute to idea generation on the new concept design.[4]

Firstly China is important for the gross of respondents as a market and a source of competition. Also, the importance of controlling food safety, and a demand for genetically pure products for higher segments, Halal products for Muslims and/or kosher products for Jews were mentioned by several respondents. However one of the respondents mentioned that not all its customers would be happy to see a Halal logo on its products. This respondent believes that labelling products with a Halal logo would incur additional costs because they would have to adjust their production process every time a

[4] Suggestions made by a minority of respondents are presented in *Appendix F*.

batch needs to be Halal stamped. Nb. Based on this respondent's opinion there appears to be a negative association with Islam in Europe.

Further, during arrangement of the interviews the researcher contacted several food (ingredient) manufacturers which would not cooperate, but did respond by telephone to some of the questions posed. Although the reliability and validity of these 'mini-interviews' can be questioned the researcher will not withhold the responses to the question why these choose not to become active in Asia?

- 'perishable products'
- 'focus on Dutch market'
- 'European market is large enough'
- 'import from Asia, not export to Asia'

During subsequent discussions with the CEO of LBB Teams he mentioned the possible underlying reasons of companies fearing the risk for the unknown, the quality of their chain integrity and fear of corruption in Asia and the importance of offering risk reduction for LBB TEAMS' clients.

## 5.6 Conclusion: Customer Design Input Contributing to Idea Generation

So, which SCM features are particularly valued by the respondents from food manufacturing industry? Regarding the content of the new service one can conclude that adequate delivery of products is highly valued by FMs. When providing distribution services complying with formalities and obtaining necessary documentation, ensuring high quality of products along the SC, physical distribution, customer service, ensuring short delivery times and just in time delivery and being a reliable partner to customers should be provided (*Figure 22).*

Also, sales forecasting and market intelligence as well as cost effective SCM were often mentioned. Providing these services thus might contribute to success. Not that often mentioned were CSFs related to material management; like procurement and purchasing, inventory management, information technology, overall logistics, manufacturing the product as a whole and outsourcing of production. But opportunities for services regarding procurement & purchasing and/or outsourcing of certain functions are present. However, these should not form the focus of the new service.

Respondents identified that it is important to comply with qualitative requirements regarding food products, i.e. temperature control and hazardous qualified transport. An opportunity for consulting derives from their wish for suggestions for improvement by the LSP.

*Figure 22* provides an overview of the success factors which contribute to idea generation.

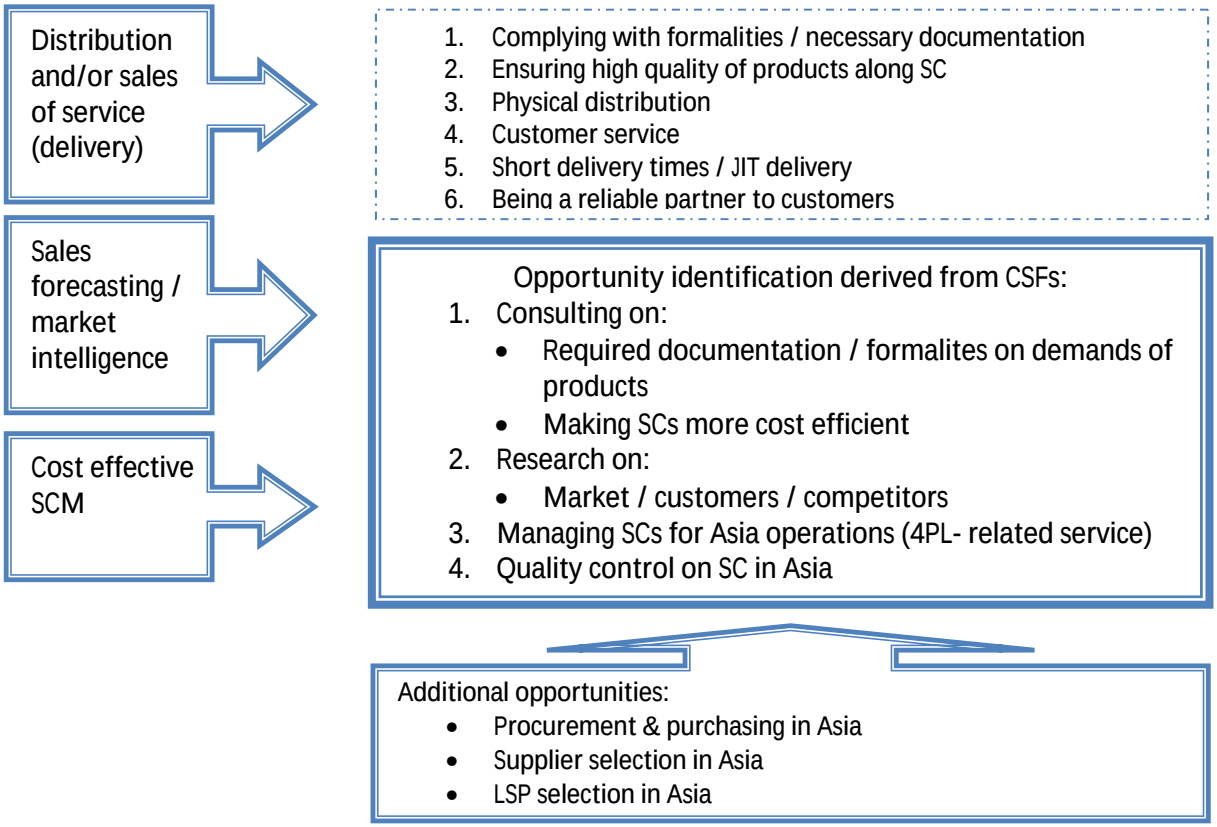



*Figure 22: Ideas generated by critical success factors*

Also ideas can be generated by identifying obstacles. Respondents experienced issues in distribution of sales and service, or delivery of the products. Often changing regulation regarding labelling and/or validation of products is identified as the main obstacle of SCM to Asia. Also import restrictions or problems with customs, management of Asia operations, purchasing and procurement for Asia operations and quality insurance cause obstacles. According to the respondents LSPs should provide solutions to these problems. Opportunities derived from these obstacles are presented in *Figure 23.*

Most respondents did not yet establish distribution centres in Asia. This generates opportunities for consulting: i.e. providing feasibility studies on establishing distribution points in Asia. But there is also an opportunity for LBB Teams to design, set up and manage distribution centres in Asia for Dutch food (ingredient) manufacturers.

One can conclude that results from the interviews and additional remarks of the respondents reveal that services should evolve around consulting & research. The service provider must think with its clients and provide diverse operational knowledge on the best way of distributing or selling their products in Asia, information on the market environment in Asia, and Asia operations. Further, it should provide advice on, as well as design of, cost effective SCs.

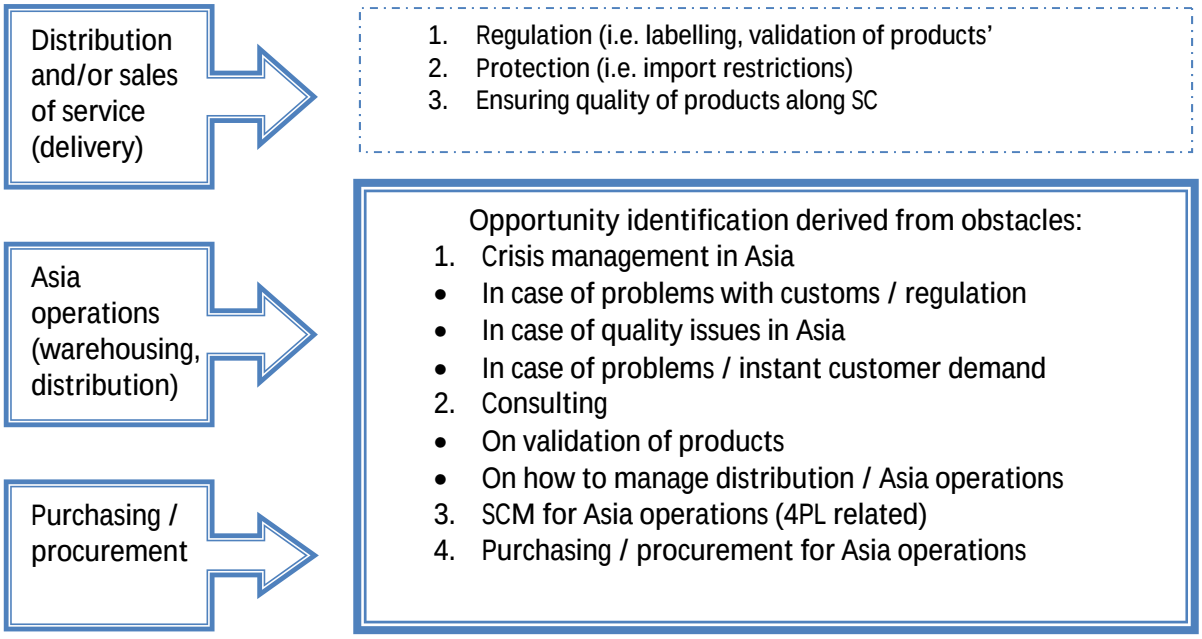



*Figure 23: Idea generation derived from obstacles*

Besides consulting and research the service provider should provide its clients with diverse options for managing their EurAsia SC. Hereby it will take on operational responsibilities regarding purchasing and procurement in Asia, setting up and managing Asia operations like warehousing and distribution centres, crisis management in Asia and selection of suppliers or LSPs in Asia. It should convince potential clients by emphasizing services evolving around improved market intelligence, customer service and cost effective SCM.

# CHAPTER 6 THE COMPETITIVE ARENA & ENVIRONMENT

## Introduction

By a short benchmarking study LBB Teams' relative position is examined. Section 6.1 defines the competitive arena. Companies/services with which the initial service goal can be compared are analyzed. Subsequent steps of benchmarking (identification of the key components of customer service as identified by the customers; establishment of the relative importance of those service components to customers; analysis of the data to see if service performance matches customers' service needs) interface with concept testing. Section 6.3 elaborates on environmental factors contributing to idea generation for the new service design.

## 6.1 The Competitive Arena

4PL
Ideas for the new service design correspond with operating as a fourth party logistics provider (4PL). Elaboration on this subject is presented in chapter 3. In short, characteristics of a 4PL are that…

- ..it has an asset free approach. This implies that there is low capital requirement of entry (Rushton and Walker, 2007).
- ..it focuses on long-term partnerships (Frost.com, 2008)
- ..it requires internal transformation of customer's organisation (Frost.com, 2008)
- ..it is based on 'best-of-breed approach'. A 4PL will select and incorporate partners which will provide the best services (i.e. 3PLs) which will ultimately help the 4PL in delivering its value proposition (Frost.com, 2008)
- ..it involves entering risk-reward scheme and also requires extensive IT-skills, management capabilities and branch specific know-how.

An example of a 4PL is DKSH. The value proposition of this company is it being *'..the no. 1 market expansion services group in and for Asia'*. One of the services it offers is expanding sales for companies which wish to sell consumer goods, healthcare products, performance materials or advanced machinery. The company provides aspects of marketing, brand building, sales and distribution.

Input for benchmarking 4PLs is further derived from Mrs. L. Hsian-I Hsiao's research. At the time of writing Mrs. Hsiao is conducting her PhD research on 4PL in international food supply chains for Wageningen University. An interview was arranged in order to gain her insights on the subject of 4PL.

According to Mrs. Hsiao the basic services of a 4PL are selecting 3PL,customs services and arranging for locations and warehousing. Occasionally 4PLs are in control of the supply chain, so in case of accidents they manage the problems. This is however not common because of information sharing issues. Mrs. Hsiao found that companies which outsource to a 4PL have common characteristics. Companies are more likely to outsource when they experience:

1) High demand volume
2) High demand uncertainties
3) High demand fluctuations (to a lesser extent than the first two mentioned)

The value proposition of the 4PL is that it increases/provides:

- Reliability
- Flexibility
- Quick service

Mrs. Hsiao found that companies have many complaints companies regarding their 3PL service providers. She notes that a 4PL cannot easily decrease cost for its customers. Hence, companies should outsource to a 4PL in order to improve their service.

The boundary of Mrs. Hsiao's research is set by her focus on the manufacturing/processing industry. It is a comparative research on the situation in Taiwan and the Netherlands. What is interesting is that Mrs. Hsiao did not define 4PL as being 'non-asset' while this research defined it as such.
Findings are that companies are more likely to outsource to a 4PL in Taiwan whereby outsourcing value added services have a predicted increase from 10% to 25%. This probably is due to positive developments in intra-Asia trade and a positive growth.
In the Netherlands however, outsourcing to a 4PL will decrease from 11% to 7%. This can be due to competition between service providers in Europe. But this is not scientifically tested.

One of the obstacles 4PL providers are facing is 3PL selection. This is very important to most companies. A reason why companies do not want to outsource is that they have often established a way on how to select the best 3PL themselves. Another obstacle is that 4PL activities include scheduling for the production plant. I.e. the 4PL might find out that Monday is not a good day for distribution and that Wednesday offers cost advantages. However, the other supply chain partners (like suppliers, customers) should then also be flexible. This might impose problems which might disable the 4PL to offer improvement to its client, which is its initial purpose.
Mrs. Hsiao found out that, specifically in the Netherlands, companies consider low cost very important when entering a 4PL contract. She did not find an explanation for this. But it conflicts with her finding that a 4PL cannot easily decrease cost.

Food Manufacturers

So, *food manufacturers organizing their own SCM* are a substitute for LBB Teams' services. Reasons for companies to do so are that they:

- Consider logistics key success factor as well as core competence
- Don't consider logistics to be their core competence but want to remain in-house (i.e. outsourcing considered a risk)
- See chances to perform their own SCM in Asia
- Do not see cost advantage of outsourcing

Further, logistical partnerships between suppliers and the food and stimulant industry, but more especially between retailers and the food and stimulant industry are innovative and show that companies in the Netherlands are ahead of other countries in this respect (Hollandtrade.com, May 2008).

Representative Offices

Then, if LBB Teams should decide to engage in market research and establish contacts with prospective customers and partners it will show similarities with a *representative office*. The mission of the representative office is to act as a liaison between the home office and trade organisations or

related industries abroad. Representative offices often engage in market research and establish contacts with prospective customers and partners. A representative office is not a separate legal entity. Rather, it is an extension of its parent company (Export.gov, January 2009).

An interview was conducted with a representative office provider in Kuala Lumpur. This provider's objective is to strengthen the link between Netherlands and Malaysia by acting on opportunities arising from industries (education, healthcare, environment) complimented by cooperation and support of many organisations (i.e. Royal Dutch Embassy, Malaysian Dutch Business Council. Characteristics of this specific representative office provider are that…

- .. it is very locally oriented on the Netherlands and Malaysia
- .. its has its own extensive office facilities in heart of Kuala Lumpur
- .. it operates with a multi cultural team of Malaysian and Dutch employees
- .. it facilitates by creating opportunities for collaboration between Dutch and Malaysian companies/institutions
- .. it operates by having a personal approach and offering high customization
- .. it provides low initial costs for its customers which makes it more interesting to start a business in Kuala Lumpur
- ..once a project between companies or institutions from The Netherlands and Malaysia is established the representative office will provide information and support but the Dutch company has to establish its own representation in Malaysia.

## 6.2 Conclusion: Idea Generation Stimulated by Benchmarking

When wanting to operate as a 4PL the new service will have to involve the following elements:

- selecting 3PL
- customs services
- arranging for locations and warehousing

An obstacle is the well established reputation of large 4PL providers like DKSH. Other obstacles stem from information sharing issues. These obstacles can occur when wanting to manage complete SCs. Further, decreasing cost for customers is difficult for a 4PL. Thus the focus should be on achieving other considerable improvements in SCM; i.e. increasing reliability, flexibility, delivery times but also quality improvement or sales improvement.

The client's cost focus as well as its possible reluctantness to outsource the selection of 3PLs impose threats on operating as a 4PL. The most important threat is the predicted for the 4PL market in The Netherlands. But an opportunity derives from an increasing market for 4PL in Taiwan. When deciding to operate as a 4PL a suggestion for future research is investigating developments of this market in Asia. The researcher suggests to provide services not only for Dutch (or European) companies but to Asian companies as well. Three scenarios which are based on this suggestion are providing services:

- For food (ingredient) manufacturers not physically present in Asia
- For food (ingredient) manufacturers physically present in Asia
- For Asian companies.

Opportunities are also present for market development services or acting as a representative office. An obstacle is that office locations will have to be established from which operations can be conducted. Another, and possibly more severe obstacle, is that an integrated network with several companies and/or trade organisations is essential for success of the representative office.

To conclude, fully acting as a 4PL or a representative office both imposes obstacles. By not fully acting as a 4PL it will not live up to the expectations of integrating and optimizing the SC. Finding other options for the new service is desirable. By selecting and incorporating diverse elements of the benchmarked institutions LBB Teams will create a distinct portfolio of services. Its real added value, however, should derive from other activities than those described in this section.

## 6.3 Macro Environmental Analysis

Several environmental factors create opportunities for the new service design. A PESTEL-analysis is therefore included in *Appendix G.* A short summary derived from this analysis is presented in this section.

*Political*
Regarding political pressures an opportunity is identified for LBB Teams to consult on or establish presence for its clients in Asia to avoid import duties deriving from protectionist pressures.

*Economic*
The slowdown in intra-EU trade together with other economic developments creates opportunities for LBB Teams. Individually and combined these factors present the opportunity to convince companies to look at Asia. Possible solutions to offer can be to consult on/ manage SCs and/or establish Asia operations for its clients.
Worldwide competition and pressure on margins create an opportunity to convince companies of the importance of gaining knowledge on competitors and market. This is a solution that could be offered to the industry.

*Socio-economic*
Opportunities exist in providing services for Halal logistics and SCM on a worldwide base, but for Malaysia and Indonesia specifically. Further different eating habits and increasing purchasing power offer market development opportunities for FMs wherefore new services can be developed.

*Technology*
Advanced technology in IT enables LBB Teams to operate as a 4PL, because this model relies heavily on IT-systems in order to plan and optimize across the demand, supply, inventory and distribution activities.

*Environmental & Legal*
Due to upcoming European legislation and environmental pressures, companies are being encouraged to improve asset utilisation and efficiency. Providing a successful 4PL model can result in better operational efficiency and process enhancements (Frost.com, 2008).

Derived from the increasing attention for food safety and quality along the chain opportunities for consulting on SCM (i.e. Hazard Analysis and Critical Control Point (HACCP) systems) derive. SCs can be made more transparent and quality of products better ensured. This environmental factor also provides opportunities for help with certification.
Scarcity of raw materials further creates an opportunity to assist in procurement.

The development of a Halal logistics standard creates opportunities to consult on Halal logistics and/or help with certification. Derived from changing eating habits in Malaysia food segments that are most interesting to serve are: Halal foods, flour based products, cereal-based products, condiments, nutritional snacks and health foods.

Malaysia is considered to be the third most attractive business location for off-shoring and outsourcing services (A.T. Kearney, 2007). Corruption standards are much higher in 'traditional' outsourcing countries as India and China (Transparency.org, September 2008). Further, the port of Klang consisting of Kuala Lumpur and its surrounding area is considered to be one of Asia's logistics hotspots; it is an important regional hub (Capgemini, 2008). The tax-free environment of the island Labuan further creates options for conducting feasibility studies on establishment of an offshore company at this island.

## 6.4 Conclusion: Opportunities for Idea Generation Derived from Macro Environment

One can conclude that most opportunities are present for consulting. LBB Teams should conduct research at and consult on establishing Asia operations. The aims for companies to establish presence in Asia can derive from avoiding import duties and/or protectionist pressures and/or benefiting from the tax-free environment of Labuan.

Also LBB Teams needs to provide consulting solutions concerning market intelligence. It should further provide options for companies needing assistance in Halal logistics and/or certification. This can also be done in an operational manner, i.e. facilitating these processes of certification for its clients. Further it should offer the option of managing SCs in Asia; this can imply designing new SCs, but also taking over and improving SCs to make them more transparent and ensure quality of products. Operational assistance should be provided in procurement activities, i.e. selecting suppliers of raw materials in Asia.

# CHAPTER 7 CONCEPT DEVELOPMENT AND CONCEPT TESTING

## Introduction

This chapter elaborates on the ideas gained from several analyses. A concept for new service exploitation is developed. The process of deriving to a concept is explained in section 7.1. The conceptual model was empirically tested among experts in SCM in order to rank suggestions. Results of concept testing are presented in section 7.2 and serve as input for the next chapter.

## 7.1 Concept Development

Opportunities are identified based on LBB Teams' core competences and characteristics, customer design input, a literature analysis and environmental analyses. A SWOT-analysis (*Appendix H*) was constructed. By this analysis the generated ideas and influences are listed and opportunities derived from these elements are identified. At this point the idea generation stage is followed by the stage of concept development. Besides opportunity identification also brainstorm sessions with the CEO of LBB Teams are conducted. This results in the construction of a customer satisfaction iceberg which is presented in *Appendix I*. The model gives a textual presentation of the way value is provided to the customer by the new service.

Identifying the importance of the individual proposition components in a structured manner is allowed for by using the customer satisfaction iceberg as a model. This is done by concept testing which will be elaborated on in the next section.

## 7.2 Concept Testing

The concept presented in *Appendix I* was qualitatively and quantifiably tested by interviews in order to identify elements which are crucial to achieving utmost customer satisfaction. For this purpose experts in SCM at MNC FMs were interviewed. Testing took place amongst one Dutch food ingredient manufacturer and three Dutch food manufacturers. Concept testing took place in a face-to-face setting at location of the respondent's company. The respondent of the FIM is manager planning & distribution strategy for South Asia and originally from India. The respondents from the FMs were export manager, supply chain manager for South East Asia and Manager Warehousing and Order management.

On topics about which little was known, i.e. terms of payment, open questions were posed. For other elements such as choice of the services the respondents were asked to rank suggestions and thereafter give their opinion on the completeness of the item. A list of the questions and answers can be found in *Appendix J*. Results are presented in this section.

To start, the following conceptual definition of the new service was provided to the experts about the services LBB Teams will provide:

> 'LBB Teams provides Supply Chain Management Solutions. It develops, improves and manages food ingredient manufacturers (FM) supply chains in Asia as an extension of their client's organisation.

- For European or Asian FM already physically present in Asia;
- For European FM physically not present in Asia;
- For Asian companies.

The final question in concept testing (*Appendix J)* required that the experts ranked all aspects of the customer satisfaction iceberg on their relevant importance in decision making. The following order of importance of the individual components was deducted:

1. Service: Facilities that supports the purchase & use of the service
2. Convenience: Making things easier for the customer
3. Price: Price level in accordance with perceive service benefits
4. Information/reassurance: Communication with regards to the service
5. Delivery: the process of agreeing on cooperation to delivery of the service
6. Choice: 'What is out there on the market?'
7. Operational context: Services apply a certain context
8. Financing: Terms of payment

This sequence of importance is followed in the rest of this section.

Service

The services LBB Teams should offer are divided in to three stages; before, during and after purchase. Services necessary to conduct during these stages derive from discussions with the CEO of LBB Teams and interviews. The initial proposal is amended and replenished by the respondents which resulted in the findings as presented in *Table 8*.

| Before purchase | During purchase | After purchase |
|---|---|---|
| *Business Development of LBB Teams in Europe and Asia*<br>a. Conceptual explanation of LBB Teams' business model, including:<br>i. Advantages for organisation compared to current situation and/or traditional LSPs;<br>ii. Cost / benefit analysis;<br>iii. Portfolio presentation by LBB Teams.<br>b. Intake assessment; quantifiable feasibility study which makes clear how perceived advantages will be achieved.<br>c. Contract formulation; including dividing | *Preparation of operations*<br>a. Assignment suitable contact persons on both sides empowered to make decisions<br>b. Training members LBB Teams on client's organisation<br><br>*Supply chain improvement*<br>a. Suggestions for improvement initiated by LBB Teams<br>b. Performance reports and meetings with senior supply chain members on a regular basis<br><br>*Supply chain management* | *Evaluation of 4PL model; including recommendation on how to proceed*<br><br>*Once optimized SCM can be transferred back to clients' own organisation (optional)* |

| |
|---|
| responsibilities between partners. |

*Table 8: Service components*

Convenience

Input for this aspect derived from an analysis of LBB Teams' goal and characteristics and subsequent discussions with the CEO of LBB Teams. The aim of 'convenience' is to make it easy for the client to adopt LBB Teams' services by providing a high degree of customization. The aspects of convenience were ranked by respondents and results are presented in *Table 9.*

| |
|---|
| 1. Physical presence in Europe as well as Euro-Asian team in Asia |
| a. Representation of client's company by members of LBB Teams in both Europe as well as Asia<br>b. Conducting business in the multiple languages (i.e. Dutch, German, English, Malay) in Malaysia<br>c. Same time zone as Asia<br>d. Awareness of European as well as Asian culture |
| 2. Easy accessible business model |
| a. LBB Teams operates as an integral part of its clients IT systems<br>b. Low entry and exit costs (i.e. low travel costs, no expatriate salaries, low cost facilities and low fixed assets in Asia)<br>c. Equal partner; LBB TEAMS' extensive research background and knowledge on its prospective client's supply chain and product specifications allows LBB Teams to operate as an equal partner and offer a correct, consistent, clear and complete solution<br>d. Establishment of one point of contact for customer's Asia operations |
| 3. Non-standardized service offering (customization to individual customer needs) |
| a. High flexibility in operations (i.e. fast decision making, acting on changing circumstances, not burdened by fixed assets)<br>b. Extensive service portfolio<br>c. Independent in partner selection; i.e. not restricted to selecting certain partners<br>d. LBB Teams operates by representing non-conflicting products only. |

*Table 9: Elements which enhance convenience for the client in order of importance*

Additional remarks and/or findings of the researcher are made on the following points:

*1& 2*: Physical presence in Asia is considered to be an absolute necessity. Further, an easy accessible business model reduces barrier to try the new service.

*1a+c:* An interesting finding is that the respondent from India ranked 'awareness of the European as well as Asian culture' and 'same time zone as Asia' highest whilst most other

respondents ranked these aspects lowest. This might be due to the fact that this respondents has most experience in this field.

*2a:* Operating by client's IT-systems can be a unique selling point for LBB Teams.

*3d*: All respondents ranked 'representing non-conflicting products only' lowest. Additional remarks from the FMs revealed that even synergy might be achieved in physical distribution of 'conflicting' products. Although not empirically researched, it is believed that this low prioritization stems from the nature of the products. Nb. One of the respondents mentioned that the concurrent could also go to the supermarket in order to analyze his products. Previous interviews for opportunity identification revealed that for FIMs this matter might be more complicated. Ingredients might more likely be subject to copycatting.

Price

The CEO of LBB Teams wants to provides services at a premium price because of the high perceived service benefits. He proposed monthly invoicing of operational costs and an additional performance bonus based on targets realized. The reaction of the respondents was that they would like to work by incentives. This implies identification of minimum improvements in order to obtain the performance bonus. In case of considerable improvement an additional or higher performance bonus should be agreed on. This reward scheme should also involve risk sharing, i.e. in case of marginal performance LBB Teams will not get paid at all. A bonus of 10 percent of performance improvement is considered to be a fair price.

Another option identified by the respondents is payment per project realized.

Information / Reassurance

In order to inform (potential) clients about its services it is necessary to conduct certain activities. Respondents have the opinion that LBB Teams should introduce itself per telephone or e-mail to potential customers. Also, participating in fairs and networking events is desired.

In case the potential client is interested a follow-up meeting should be arranged for. During this meeting extensive elaboration on the benefits of LBB Teams' proposal for the client should be presented. Hereby it is important to present relevant examples for improvement. Also a portfolio with previous projects should be presented.

Next to the practices described above LBB Teams should opt for a 'top of list' position when respondents 'google' for LSPs or SCM service providers. The following ways of reassuring information were identified during discussions with the CEO of LBB Teams:

- Office facilities LBB Teams in The Hague, Kuala Lumpur and Bangkok
- Membership LBB Teams of leading councils in Malaysia (i.e. Malaysian Dutch Business Council (MDBC) and Malaysian-German Chamber Of Commerce & Industry (MGCC) etc)
- Publication of articles by members of LBB Teams (in magazines)
- LBB TEAMS' website
- LBB TEAMS' brochure

Delivery

Respondents identified that the timeframe of delivery will most likely vary depending on size of operations. Only one respondent derived to a quantifiable opinion. He stated that 'intake assessment & proposal' should take 2 weeks to 2 months. 'Preparation of operations' would probably take twice as long. Sourcing back of processes should take half the time of preparing operations. The elements presented in *Table 10* are considered to be important to deliver to the customer.

| |
|---|
| Intake assessment & proposal |
| ● Assess Benefits<br>● Risk Assessment<br>● Determine exact operating model & costs |
| Preparation of operations |
| ● Familiarization of LBB's team with client's company & client's customers in Asia<br>● Training of LBB's team on client's IT system<br>● Acquiring necessary facilities in Asia<br>● ICT Installation at LBB Teams<br>● Hand-over |
| Operations |
| ● Stabilise<br>● Growth<br>● Optional: sourcing back of processes |

*Table 10: Actions necessary to 'deliver' to the client*

Choice: Supply chain management and improvement in Asia

Many suggestions from which the client can choose derived from the analyses. These suggestions were listed, a description was provided and respondents were asked to rank the initial list in order of importance (*Table 11).*

| |
|---|
| 1. Consulting |
| ● Performance improvement programs (i.e. in order to increase supply chain efficiency and effectiveness, improving supply chain integrity)<br>● Feasibility studies (i.e. determining viability of establishing production location, CODP, sales office etc, in Asia) |
| 2. Physical distribution management (logistics) in Asia |
| ● Management of the flow of goods, information and other resources between the food (ingredient) manufacturer in Europe to the point of consumption in Asia. |
| 3. Value added logistics in Asia (i.e. labelling, packaging) |
| 4. Research (analyses) |

- Market studies: sales forecasting, gaining better understanding of customer's desires etc.
- Competitive intelligence: researching, analyzing and formulating data and information from the entire competitive environment in Asia.

5. Purchasing in Asia
   - Facilities purchasing
   - Raw materials purchasing
6. Marketing & sales (operational)
   - Developing new markets in Asia
   - Sales coordination, i.e. distributor relation management and controlling of agents
   - Promotion of company in Asia, i.e. representation on key events, development of customized marketing material and/or website for Asia
7. Finance
   - Accounting of customer's Asia operations
8. Outsourcing of production

*Table 11: Choice of services in order of importance to potential clients*

Initially value added logistics (VAL) activities and 'outsourcing of production' were elements of 'production in Asia'. However, respondents reacted positively to VAL but had a negative opinion towards outsourcing of production. They did not consider it relevant due to organisational aspects or were reluctant to outsource because of the risks (i.e. violation of intellectual property, food safety issues) involved. Financing for Asia operations is unanimously ranked among the lowest regions because it is considered to be an activity which will not be outsourced.

Consulting is identified by respondents as a CSF of the service LBB Teams will provide. This should be an important element of LBB Teams' value proposition.

Operational context: food ingredients and food products
Which elements of the service concept are specifically important to food (ingredient) manufacturers? Elements were identified during analyses and discussions with the CEO of LBB Teams and ranked in order of importance by the respondents (*Table 12).*

1. Cost advantage: favourable investment climate and tax environment, low price, low operating, labour and assets costs, decreased transportation costs
2. Establishing presence to large & growing market: young population with increasing purchasing power, changing eating habits
3. Halal compliant organisation of logistics and SCM

4. Quality control and counselling, consisting of:
   - Lab services (i.e. testing of products in Asia)
   - Auditing suppliers and/or agents
   - Advice on packaging, transport etc in Asia
   - Assistance with Halal (logistics), veterinary and health certification
   - Crisis management (i.e. at customs, distribution centers, or customers) in Asia
   - Advising and training client's customers in Asia on how to use the products
5. Production in Asia

*Table 12: Services provided for food manufacturing industry*

Findings are that achieving cost advantage is considered most important by the respondents. Production in Asia might be an option for other food manufacturers but is not relevant to the respondents which are all employed by MNCs. Further, the importance of Halal compliant organisation of logistics and SCM is recognized by the respondents. The general opinion by the respondents is however that this knowledgebase should be provided at the company in Europe, and not in Asia. Again production in Asia scores lowest which results in the conclusion that providing this service will be least critical for success.

Financing

Findings are that respondents would want to establish payments within 60 to 90 days after invoicing. This might be negotiable, but then a discount or other advantages should be provided. Communicating these terms of payment might stem from the fact that these companies are all MNCs with high purchasing power in this respect.

A retainer was proposed in order to be able to start operations in Asia. Respondents reacted differently on this proposal. One respondent finds it reasonable that, in case large operations have to be established, advanced payment will be provided. Another respondent is reluctant to cooperate in any way to a retainer. He is of the opinion that his company would not go in to business with a company needing money in advance in order to conduct operations.

## 7.3 Conclusion

So concept testing identified that the new service will mostly evolve around consulting and physical distribution management. This is a confirmation of previous conclusions of the importance of research and consulting on supply chain improvement and chances for offering physical distribution management services. Besides this conclusion new insights on ways of operating i.e. on financing and information reassurance are gained. The findings of the customer value proposition serve as input for strategy formulation, the business model and operational requirements in the next chapters.

# CHAPTER 8 STRATEGY FORMULATION AND BUSINESS MODEL

## Introduction

Section 8.1 identifies the most suitable strategy for LBB Teams when offering its new service. Next section 8.2 provides an overview of the exact services LBB Teams will offer. Then the positioning of LBB Teams in its customer's value network is depicted in section 8.3. By creating this image its potential customers get a view on the activities they will conduct themselves and the ones which might be outsourced to LBB Teams.

## 8.1 Strategy Formulation

Strategy is to a large extent formulated by gathering input from *customer requirements* and *LBB Teams' strengths and limitations*. This stems from the reasoning that success of services depends on both understanding the customer as well as the organisational capabilities in service design and offering (Lovelock and Wirtz, 2007; Sandén, 2007; Johnson et al, 2000). Literature and environmental analyses are therefore in this case supporting elements for strategy formulation.

Derived from concept testing and previous opportunity identification the researcher concludes that new service development for LBB Teams can be categorized into 'start-up business'. Here new services are offered in a market that is already served by existing services. Ir. Tieman sees an opportunity, a chance to meet market needs through a creative combination of resources, whereby generating exceptional value (Hougaard, 2005; derived from Hills, 1994). Respondents identified that offering the proposed combination of services is not often provided yet.

It is recommended that LBB Teams will operate by a *focus strategy* concerning the companies it will target. This recommendation is firstly derived from LBB Teams internal requirements for the new service. The organisation seeks to provide *high perceived service benefits*; i.e. substantial improvement of its clients EurAsia SC processes. This should justify for a substantial price premium and is therefore considered most attractive for companies seeking to improve quality instead of lowering costs.

Secondly a focus is identified for the industry LBB Teams will serve. The company's knowledge base and track record on Halal logistics and planning and control of food supply chains is extensive. This provides the company with a competitive advantage over other SCM solution providers when aiming for the *food manufacturing industry*. There are also macro-environmental factors creating opportunities for focussing on this market. An example is the changing eating habit in Malaysia. Services can be offered to manufacturers of flour based products, cereal-based products, condiments, nutritional snacks, health foods, and Halal-compliant products.

Chances for consulting & research and distribution management services derive from identified CSFs by food (ingredient) manufacturers in SCM of Asia operations. LBB Teams core competence in consulting and research, which has been established by previous projects in planning and control, contributes to this conclusion. Also during concept testing the relative importance of offering consulting & research solutions was identified. LBB Teams thus firstly has to provide consulting &

research and its additional activities should make sure that its customers products, services and related information will efficiently and effectively flow from the point-of-origin to the point-of-consumption.

Based on secondary data analysis LBB Teams should offer solutions to small and medium sized food (ingredient) manufacturers.[5] When offering its service it should aim for companies which do not have logistics resources available in-house or do not consider logistics its core competence. I.e. in this case this concerns companies which find their SCM for their Asia operations inefficient, or too difficult to manage. These companies will likely have an increasing focus on core competences, cost reduction, better serving customers, gaining marketing advantage, improving SCM, stabilizing or increasing profitability (Eyefortransport, 2005) and making fixed costs variable, lowering investments, improving quality and lowering risk of damage (Ploos van Amstel, 2005).

Lack of in-house skills and globalizing the supply chain made them decide to opt for outsourcing (Eyefortransport, 2005). These findings correspond with small and medium sized food manufacturers aiming to improve price and cost management, identify niches, enhance customer service and improve quality and flexibility in operations. When choosing for this market segment, LBB Teams should keep in mind that being able to provide new products at a price-cost point in market niches that are not targeted by the strategies of large multinational is critical to success of these smaller firms (Van Duren et al., 2003).

Threats derive from the perceived cost focus of potential clients in accordance with LBB Teams' premium price. LBB Teams will therefore have to convince clients of the real added value it provides. Facilitators for a possible partnership can be the strategic complementarity between the client and LBB Teams, the compatibility of culture, business goals, managerial philosophy and techniques of both organisations, and service quality, customer friendliness and employee skills of LBB Teams (Van de Vorst, 2000).

The recommendation to focus on Malaysia and surrounding countries (i.e. Thailand, Indonesia) derives from LBB Teams organisational characteristics combined with environmental influences. Its organisational characteristics are that it already has a team of Malay employees in Asia which also have knowledge on Indonesian culture. Also LBB Teams has office facilities in Bangkok by which it established close presence to the Thai market. When looking at Asia in a broader perspective also opportunities can be identified for China, but this market is perceived to be too large and difficult to manage. This is amongst others due to language and cultural differences, protectionist measures and high corruption makes it extra risky to enter this market. LBB Teams should emphasize the low corruption standard of Malaysia; a country which imposes much less risks whilst outsourcing than countries such as India and China.

Large, multinational food processors often compete based on economies of scale, superlative marketing and/or by dominance of the brand label market (Van Duren et al., 2003). Interviews reveal that these large companies are often already present in Asia and contract existing, large and well established solution providers. This might result from risk reducing behaviour when selecting a partner. The MNCs often operate by tenders whereby all their logistics is outsourced to one provider.

[5] Conclusions derive from information which is presented in the background of the research, section 1.1.

Explicitly stated; for the aimed outsourcing solution LBB Teams wants to provide it is recommended to target *small and medium sized enterprises wanting to distribute or distributing to Malaysia and surrounding countries with consulting and physical distribution management services*. Further, LBB Teams EurAsian team which is physically present in Malaysia, Thailand as well as The Netherlands makes it possible to provide services for European as well as Asian companies.

Next LBB Teams is a small company which does not have the financial capability to invest in assets or make large investments for operations of its customer's supply chain solutions. I.e. LBB Teams does not have the financial capability to fulltime employ people having a diverse background in management capabilities. This conflicts with the view of the respondents; they are found to be reluctant of making large deposits. Also, most respondents reserve the right to pay within 60 to 90 days after receiving the invoice which will most likely result in a cash flow problem at LBB Teams. Finally the majority of respondents is interested in a 'risk/reward structure'. This implies that LBB Teams shares in the profit when it has considerably improved its customer's SCM. The downside of this construction is that in case of mall achievement LBB Teams will not get paid, or even be held responsible for any losses. Linked to LBB Teams' lack of operational experience and limited financial backbone this construction is highly risky for the company and therefore not recommended.

In offering its management services LBB Teams will however show some characteristics of a 4PL because it will have an asset-free approach and will work horizontally across the supply chain whereby using the services of 3PLs to provide end-to-end solutions for its clients. The most important reasons not to outsource to a 3PL are that companies consider logistics to be their core competency, see logistics as too important to outsource, believe that costs will not be reduced or are afraid they will suffer loss of control (Capgemini and Langley, 2004). In order to overcome the fear of loosing control LBB Teams should offer a 'smart sourcing' solution; this implies that it will operate as an extension of the client whereby injecting knowledge into the client.

Cooperating with a 3PL is an option for a consultant running 4PL solutions, but LBB Teams aims to act independent. So, LBB Teams will have to differentiate from the traditional 4PL model. This derives from the traditional model involving entering risk-reward schemes where LBB Teams can and will not offer risk sharing to its clients. Also it requires extensive IT-skills and management capabilities which LBB Teams does not yet have established. Lacking these skills and capabilities can damage successful execution of the new service offering.

One aspect that will distinguish LBB Teams from the traditional 4PL model is that it will use its customer's IT-systems to operate. Thereby it avoids systems integration issues. By this suggested model it will reduce loss of control as well as difficulties with bringing business processes back in-house for the companies it will serve. In order to successfully operate as a 4PL for its client's Asia operations LBB Teams will need market intelligence. This provides its clients with the opportunity to opt for *marketing* besides *logistic* solutions.

An illustration is provided in *Figure 24.* What can be seen in the 'AS-IS'-sketch is that the European food ingredient manufacturer manages its own supply chain for its Asia operations. It faces several physical and mental barriers, such as differences in time and culture, logistics etc. In the 'TO-BE'-situation LBB Teams operates and optimises processes of its customer's Asia operations as an

extension of the client. This might imply that LBB Teams will manage the relation with its client's suppliers and customers in Asia.

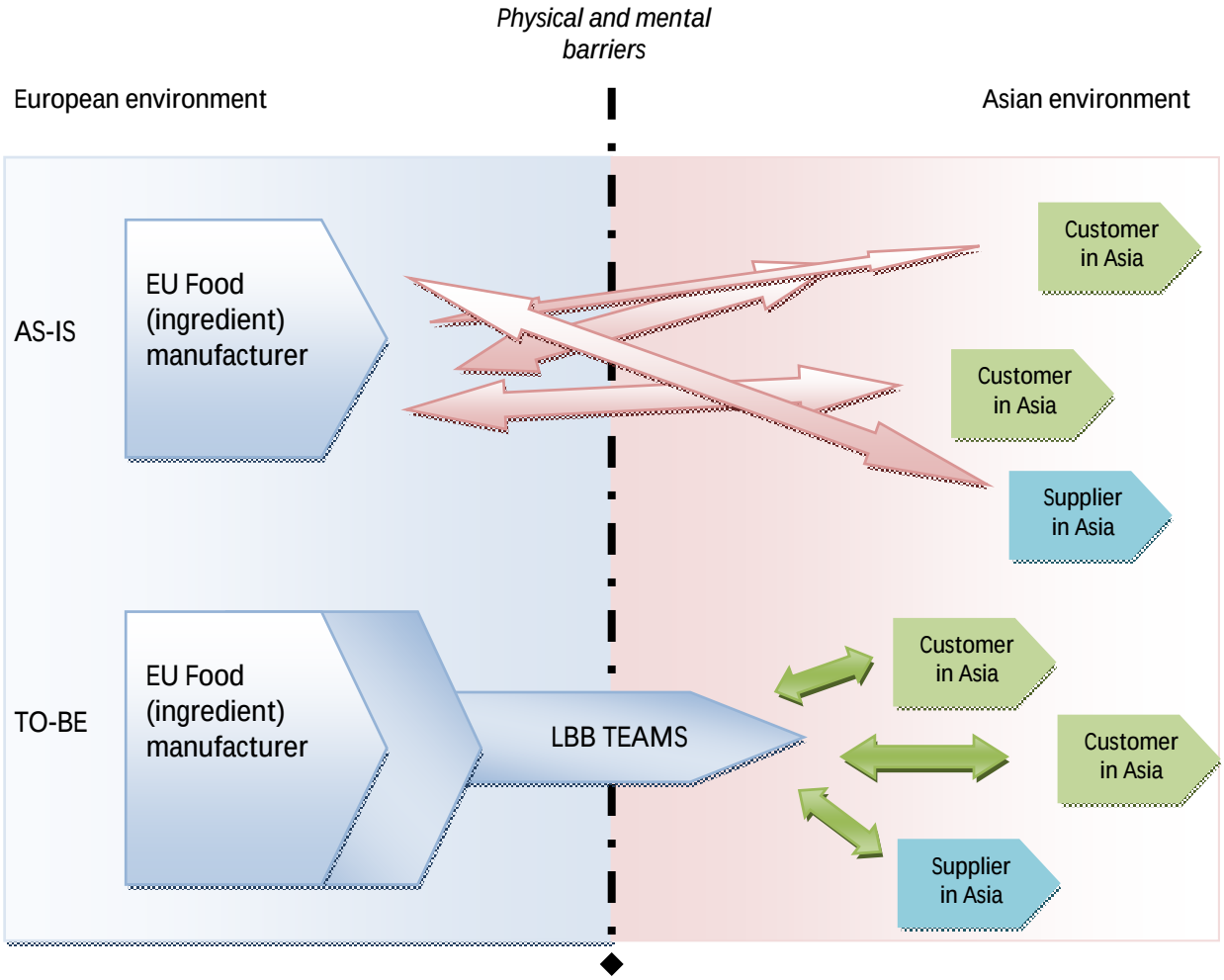



*Figure 24: Operations as an extension of the client by LBB Teams*

Eventually limitations for the new service design derive from LBB Teams weak financial situation which disables it to adhere to capital requirements. What LBB Teams' therefore should do is thrive on its strengths. Its background is in research and consulting and it does have extensive project based knowledge on evaluating and designing supply chains. Also, the market requests for consulting solutions. LBB Teams can stick to its initial goal of offering operational SC solutions. But the company should do so by offering its services in several 'phases'.

The first phase is identified to be *consulting on diverse SCM issues*. This forms the basis of all services because it delivers the real added value of SC improvement by SC design. Next, project based management of SC processes should be offered. This offers the advantages of gaining trust and operational experience as well as the possibility of maintaining the assignment of employees based on projects realized. There is a large labour pool of skilled employees in Asia and students from Europe can be assigned. Deriving from the researcher's own experience students often have limited time (i.e. half a year to a year maximum) and assigning them to projects is therefore most suitable.

Importantly, operating on a project base also creates the opportunity of generating cash flow on a short term. Gains can be invested in the company. Once LBB Teams gains trust and operational experience based on project based management it might choose to offer contract outsourcing to its clients. This does come with additional liability because it requires excellent operational strength, capital and it involves entering risk-reward structures. At this point in time it is not advisable for LBB Teams to offer this option to its clients.

The following model is drawn up based on the proposed phases (*Figure 25)*:

- Phase 1: Consulting & Research solutions for EurAsia SCs
- Phase 2: Project based SCM & improvement
- Phase 3: Contract based SCM & improvement

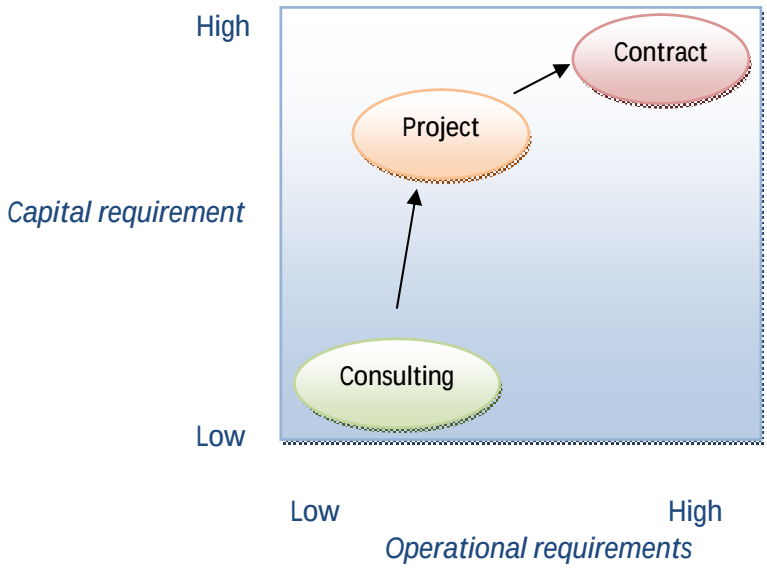



*Figure 25: Phase model service solution*

Derived from these conclusions the following value proposition is developed for LBB Teams:

*LBB Teams is the service provider which advices, designs, manages and improves product and information flows to and in Malaysia and surrounding countries in order to create exceptional value in supply chains for European and Asian small and medium sized food (ingredient) manufacturers as an extension of their organisation.*

Now the perceived added value of LBB Teams' SC solutions is identified. Also a broad description of the demand mix, or service offer, is identified. These are the first steps of developing a new service value chain. The next step is identifying the proposed blueprint for the new service. This consists of a detailed description of the exact demand mix and the roles of the participating parties.

## 8.2 Services

The different processes LBB Teams' business model (BM) should support are established by assessing the different scenarios to which it should apply. Strategy formulation (*section 8.1*) identified three phases by which the service should be offered.

Different activities for each phase are identified by several analyses (chapters 3 till 6) and further refined by concept testing (chapter 7) and brainstorm sessions with the CEO of LBB Teams. Derived from all this design input services are mapped (*Table 13*). This map will serve as the menu from which potential clients can choose.

## 8.3 Network Position of LBB Teams

This section elaborates on the network position LBB Teams will take in its client's value chain by delivering the three-phased services. This will be done by depicting the generic food supply chain alongside all information and product flows in the SC network.

The food ingredient manufacturer markets multiple products, here for using multiple distribution channels and receiving supplies from multiple suppliers (Van de Vorst, 2000). Amended from Van de Vorst's (*Figure 1;* 2000) graphical SC representation and Cooper et al.'s (1997; *Figure 12*) supply chain network structure the current situation of the FM in the total value network is depicted (*Figure 26)*. There are several flows of information floating in an uncoordinated manner between the parties involved. Retrieving and spreading relevant information is an activity which requires core competences in supply chain management. Because information flows are not coordinated implementing improvements will be a tough job (Lambert & Cooper, 2000).

In the future situation LBB Teams will take over processes and activities in its client's value network for Asia operations. This will not so much affect product flows, but it does influence *information flows*. The intensity of LBB Teams' role in its customer's value network depends on the phase of the service offering. In order to make the value network more comprehensible an element is added to depict external stakeholders like LSPs, governmental institutions and contractors with which relationships should be established depending on projects realized.

| Consulting & Research | Project based SCM | Contract based SCM |
|---|---|---|
| ● *Performance improvement programs and supply chain design*, i.e.;<br>o to increase effectiveness of EurAsian SCs (how to serve Asia)<br>o to increase efficiency in EurAsian SCs (making SCs more cost efficient)<br>o To enhance customer satisfaction<br>o To improve SC integrity (reduce threat of corruption and fiddling of resources)<br>o To improve quality of products<br>o For Halal compliant SC organisation<br>o To reduce obstacles in SCM regarding customs, special demands on packaging, transportation, shelve life, veterinary certification etc. in Asia.<br><br>● *Feasibility studies*, i.e.;<br>o determining viability of establishing production location, CODP, sales office etc, in Asia<br><br>● *Market intelligence studies*, i.e.;<br>o Customer requirement identification;<br>o Sales forecasting;<br>o Competitor analyses;<br>o Industry analyses. | ● *Design, management & improvement of Physical distribution management*<br>Management & improvement of the flow of goods, information and other resources in the SC. Options to include:<br>o Selecting 3PL in Asia<br>o Customs services in Asia<br>o Management of Asia regional DC<br><br>● *Selecting, contracting and managing Value Added Logistics in Asia*<br>o Assembling in Asia;<br>o Specifying product to Asian customer's requirements;<br>o Packaging in Asia;<br>o Labelling in Asia;<br>o Quality control of products in Asia;<br>o Provide lab services (testing) at customers in Asia.<br><br>● *SC quality control in Asia*<br>o Auditing of suppliers<br>o Auditing of agents<br>o Auditing of LSP<br><br>● *Crisis management in Asia*<br>o In case of problems with customs / regulation<br>o In case of quality issues<br>o In case of special customer service requirements | *SCM in Asia*<br>o Planning<br>o Co-ordination<br>o Control<br>…of all logistical business processes and activities in the SC in order to deliver superior consumer value at less cost to the SC as a whole whilst satisfying requirements of other stakeholders in the SC.<br><br>This involves:<br>o Selecting and contracting 3PL<br>o Providing customs services in Asia<br>o Arranging for locations and warehousing in Asia |

| | | |
|---|---|---|
| | ● *Facilities purchasing in Asia*<br>o Arranging for locations (i.e. call centre, office facilities) in Asia<br>o Arranging for warehousing in Asia<br><br>● *Procurement & purchasing in Asia*<br>o Raw materials purchasing<br><br>● *Outsourcing in Asia*<br>o Supplier selection<br>o LSP selection<br>o Selection of agents<br><br>● *Finance*<br>o Invoicing of customers in Asia<br><br>● *Multi-Channel marketing possibilities*, i.e.:<br>o Establishing website for customer's Asia operations;<br>o Providing marketing material (i.e. customized brochures, infomercials) on behalf of customer's Asia operations;<br>o Representation at events in Asia;<br>o Customer relationship management in Asia. | |

*Table 13: Service Map*

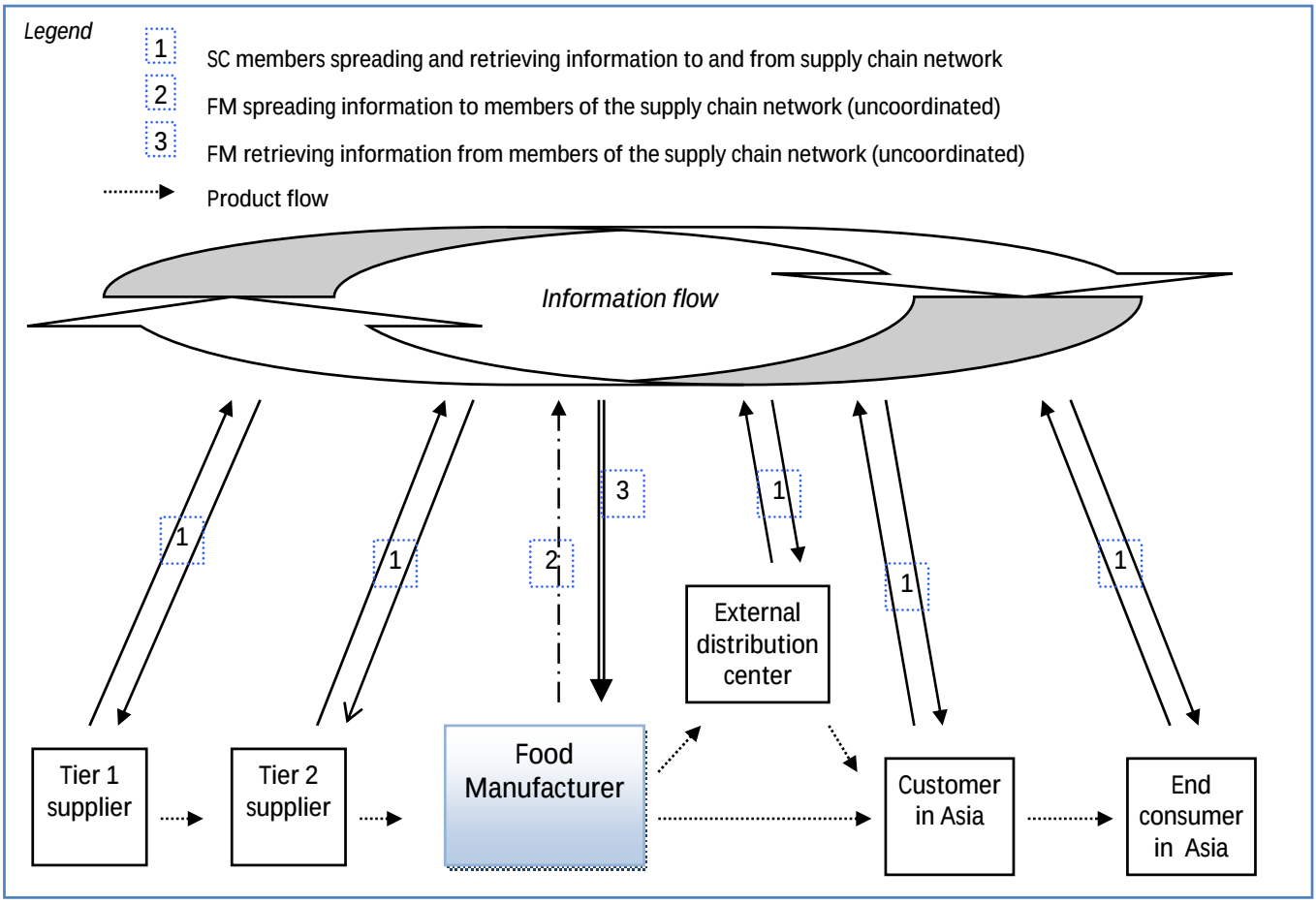



*Figure 26: Current SC Network structure of Food Manufacturers*

The next image (*Figure 27)* depicts phase 1 services; *consulting and research*. Hereby LBB Teams will distract information from the SC members, analyse and provide advice on SC design whilst existing relationships remain unchanged. Once obtained, it will inject information into the client.

This construction implies that the client as well as other stakeholders involved must share information with LBB Teams as the arrows labelled with a '1' indicate. In order to offer all proposed consulting & research solutions every party indicated might get involved. For instance, a scenario can be that the quality of the product as it reaches the end consumer should be improved. In this case, the SC starts at 'tier 1' or 'tier 2' suppliers which produce and process raw materials. Anything going wrong at these suppliers will affect quality of the end product. Also information is needed from the FM in order to find out how products are handled at their site. Next the LSPs need to be examined as well as handling of the product at customers in Asia. Finally, it might even go wrong at the end consumer which did not obtain the proper use instructions or lacked knowledge to follow these instructions.

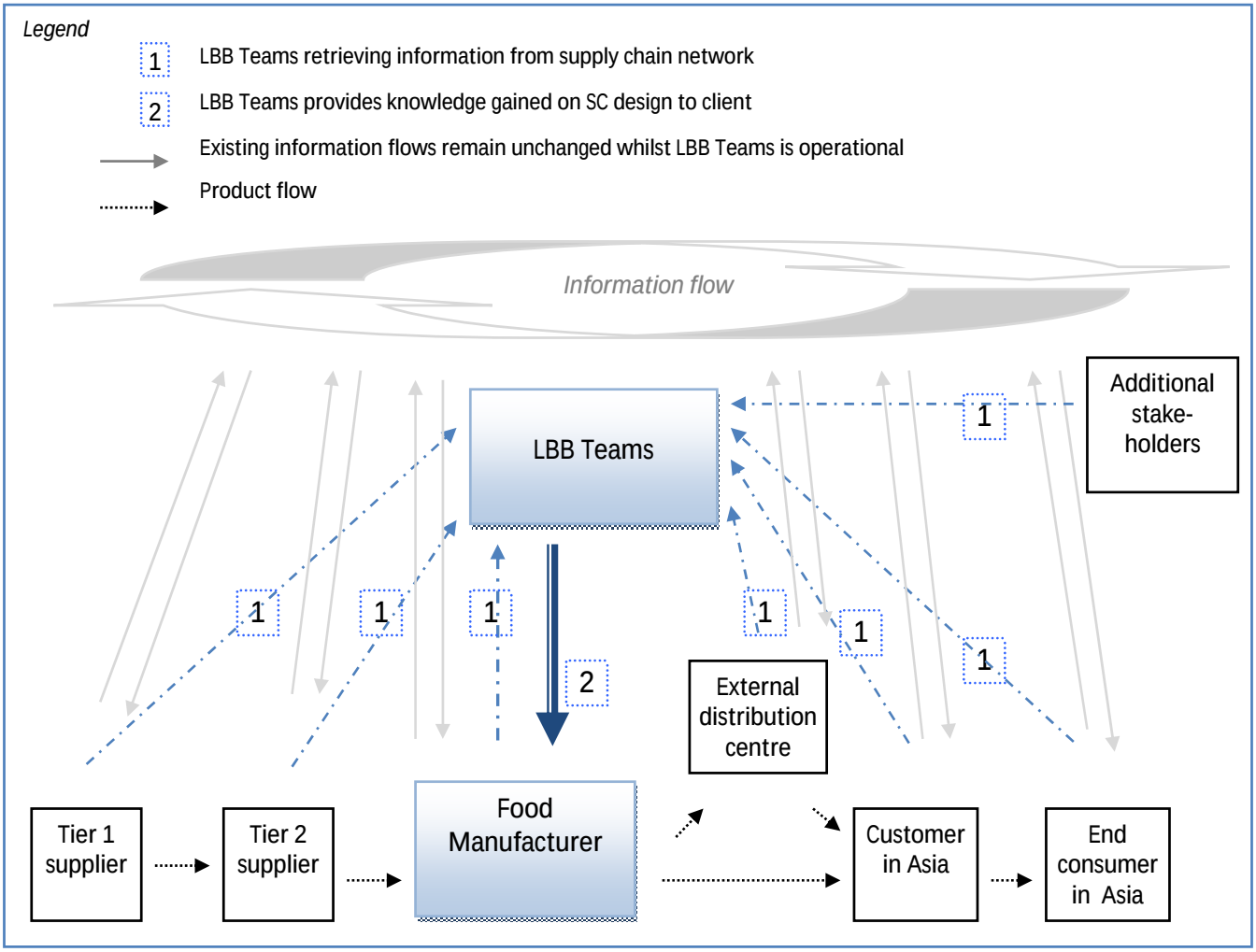



*Figure 27: Future value chain when adopting phase 1 solutions*

Based on *Figure 27* one can conclude that no radical changes will be made to the client's value network when it adopts phase 1 solutions. LBB Teams will retrieve information from the supply chain network whilst existing relationships remain untouched by this service provider.

In the second phase LBB Teams will take over, design, manage and improve parts of its clients EurAsia SC on a project base. The scenario where LBB Teams manages the flow of goods, information and other resources between the FM in Europe to the point of consumption in Asia is used to illustrate the future SC network (*Figure 28)*. In SCM for Asia operations coordination between key SC members is important because processes have to be linked (Lambert & Cooper, 2000). So LBB Teams will take over linkages with the key SC members wherein it will manage information and improve the process as depicted by the arrows labelled with a '1'. Once information is obtained it will get injected back in the clients' organisation as arrow '2' depicts. This 'knowledge injection' can easily be established because LBB Teams is aligned with its client's IT-systems. Existing information flows for other processes remain untouched i.e. suppliers will still constitute part of the SC network, but relationships with these parties will not be influenced by LBB Teams actions on the illustrated project.

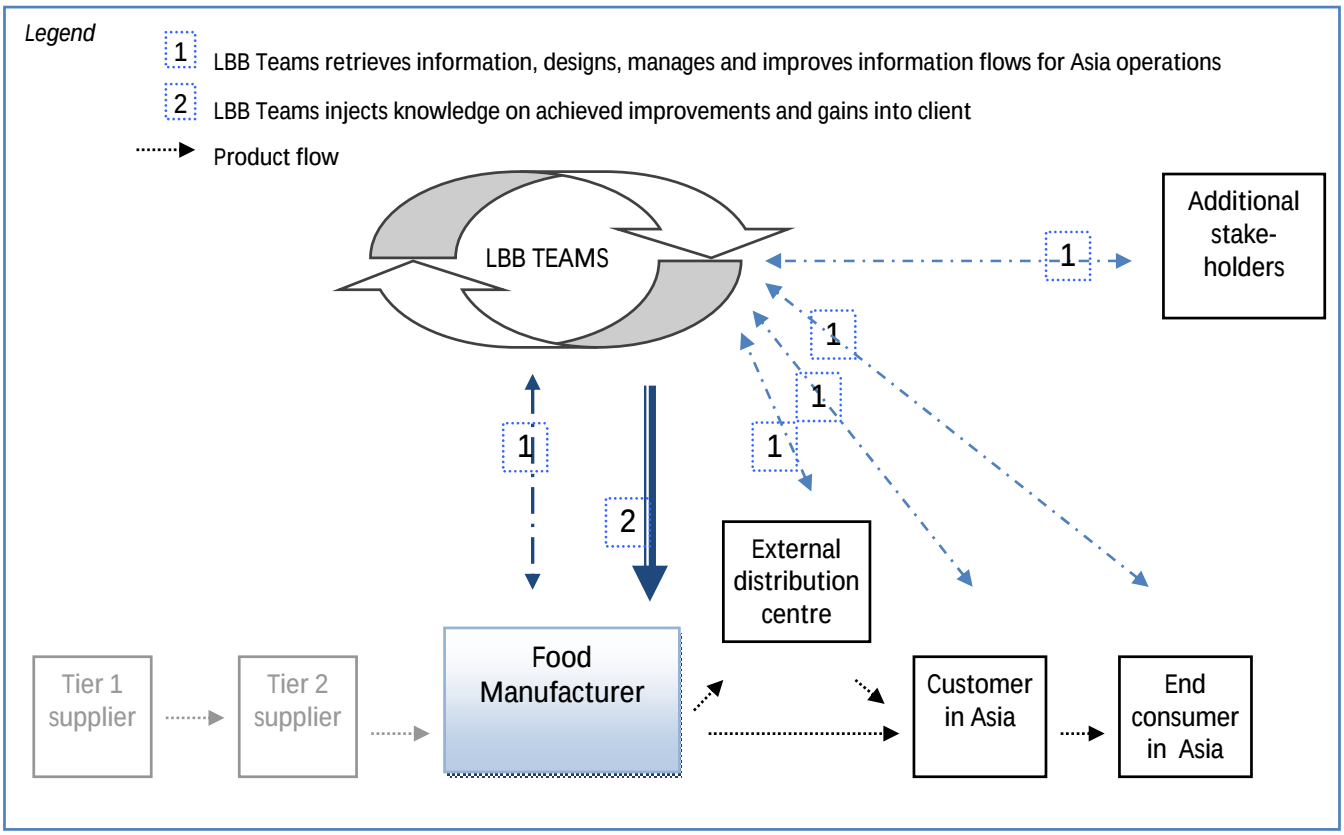



*Figure 28: Future value network when adopting phase 3 solutions*

To conclude, for this specific process information will now flow through LBB Teams which acts as a *facilitator* for managing and improving the process. The client benefits because it does not have to conduct this process internally anymore but does receive knowledge about it whilst it is being optimized. During execution of this specific process other information flows are still present but not influenced by LBB Teams' actions. For these processes the current value chain (*Figure 26)* will still be operational.

Next, the ultimate achievement for LBB Teams is to implement *phase 3* services. Hereby it will plan, coordinate and control all logistical business processes and activities in its customer EurAsia SC. This has large implications for its client's SC network (*Figure 29)*.

In this scenario LBB Teams will be the *spider in the web* for its client's Asia SCs. This implies that its client will become quite dependent on LBB Teams. In order to derive to this form of cooperation it is crucial to establish trust, show commitment and operational excellence in previous phases.

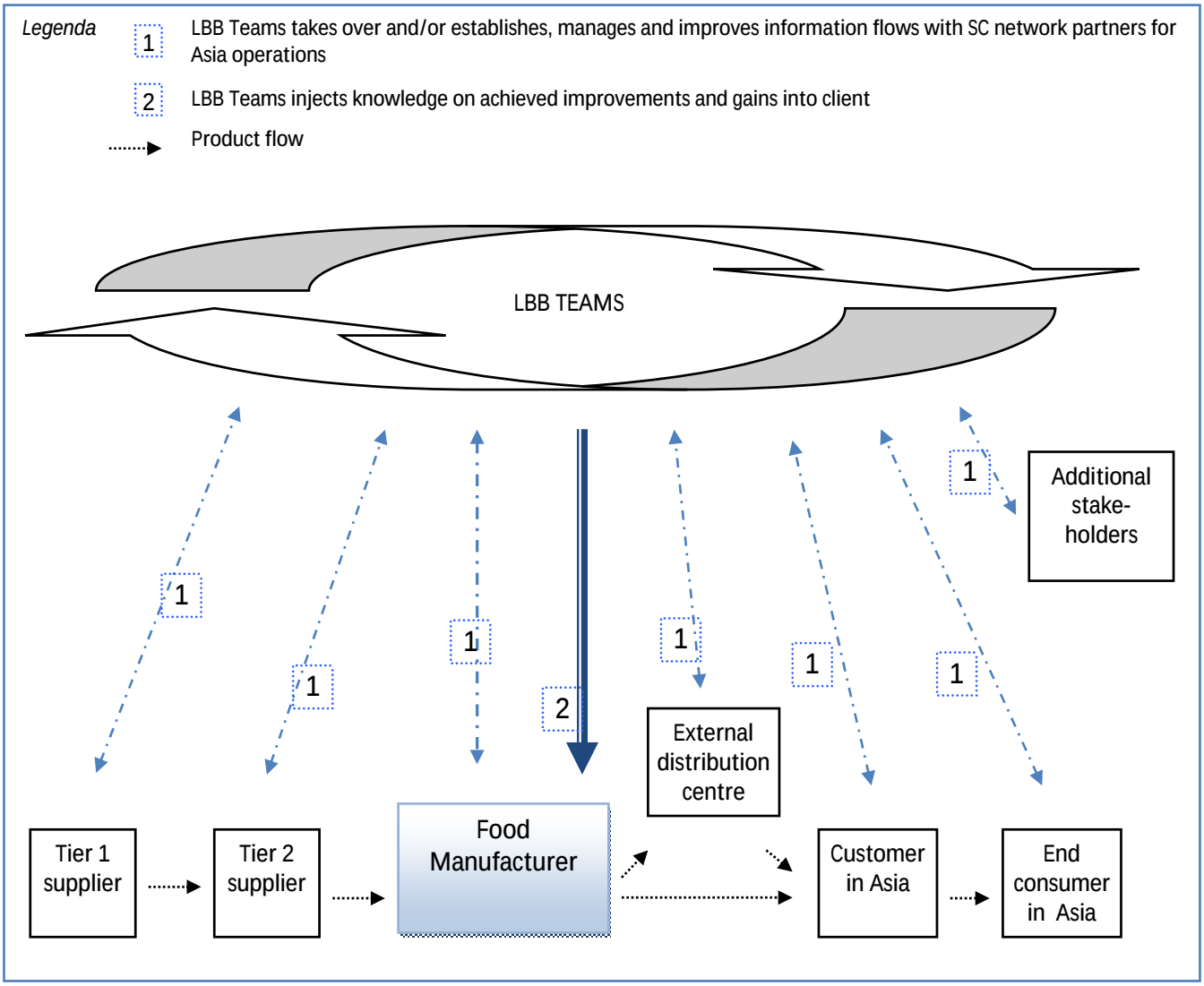



*Figure 29: Future value network when adopting phase 3 solutions*

Chapter 9 will now elaborate on requirements which form the link between the strategy in section 8.1 and the blueprint for the service as identified in section 8.2 and section 8.3.

# CHAPTER 9 ORGANISATIONAL REQUIREMENTS

## Introduction

Section 8.1 provided input on the perceived added value of LBB Teams which will be improving processes in its client's EurAsia SCs. A three-phased-service-model is provided; starting with consulting & research which is followed project based SCM and eventually contract based SCM might be an option. LBB Teams will herein not compete on price but target companies which can be convinced of the real added value the company brings through its consultative approach. In the report these conclusions are referred to as 'strategy formulation'.

Its three-phased-service-model was mapped in the 'business model' (sections 8.2 and 8.3). The BM provides an overview of the services and detailed blueprinting on the configuration of its customer's supply chain network to identify the changes which will occur when implementing LBB Teams' three phased services.

If a conclusion should be derived from the previous chapters it would be that the formulated strategy results in an extensive portfolio of services. In other words: if LBB Teams wants to become fully operational there will be many activities this small company has to conduct. So what is required from LBB Teams in order to put strategy and BM into action? This will be described by identifying 'the missing link' (Armistead, 1992) between strategy and BM; which is stating the value chain in operational terms.

This section first provides input on the missing link by defining a set of primary activities which constitute delivery of customer service and support. Secondly, it describes minimum requirements of resources – people, systems and technology – necessary for achieving utmost success. The aim is to provide LBB Teams with a set of guidelines and recommendations which should be implemented if it wants to offer the three phased services.

## 9.1 Primary Activities of LBB Teams

During concept testing (section 7.1) activities that facilitate the purchase and use of the service and whereby customer service and support should be delivered were identified. These activities were divided into three stages: before, during and after purchase of the service. Derived from these aspects primary activities are identified for LBB Teams (*Figure 30)*.

The ability to conduct these activities is centrally important to LBB Teams' strategic capability. Accurate configuration of these activities will create utmost profit potential. Identifying the exact content of these activities allows for offering the services that are mapped in section 8.2 (*Table 13*).

There is a sequence by which the primary activities have to be conducted. LBB Teams first has to perform business development. When the client decides that the services might be beneficial to its organisation an intake assessment will take place. Based on the intake assessment a 'go/no go' decision will be made. In case of a 'go' the intake assessment should result in a proposal or contract formulation.

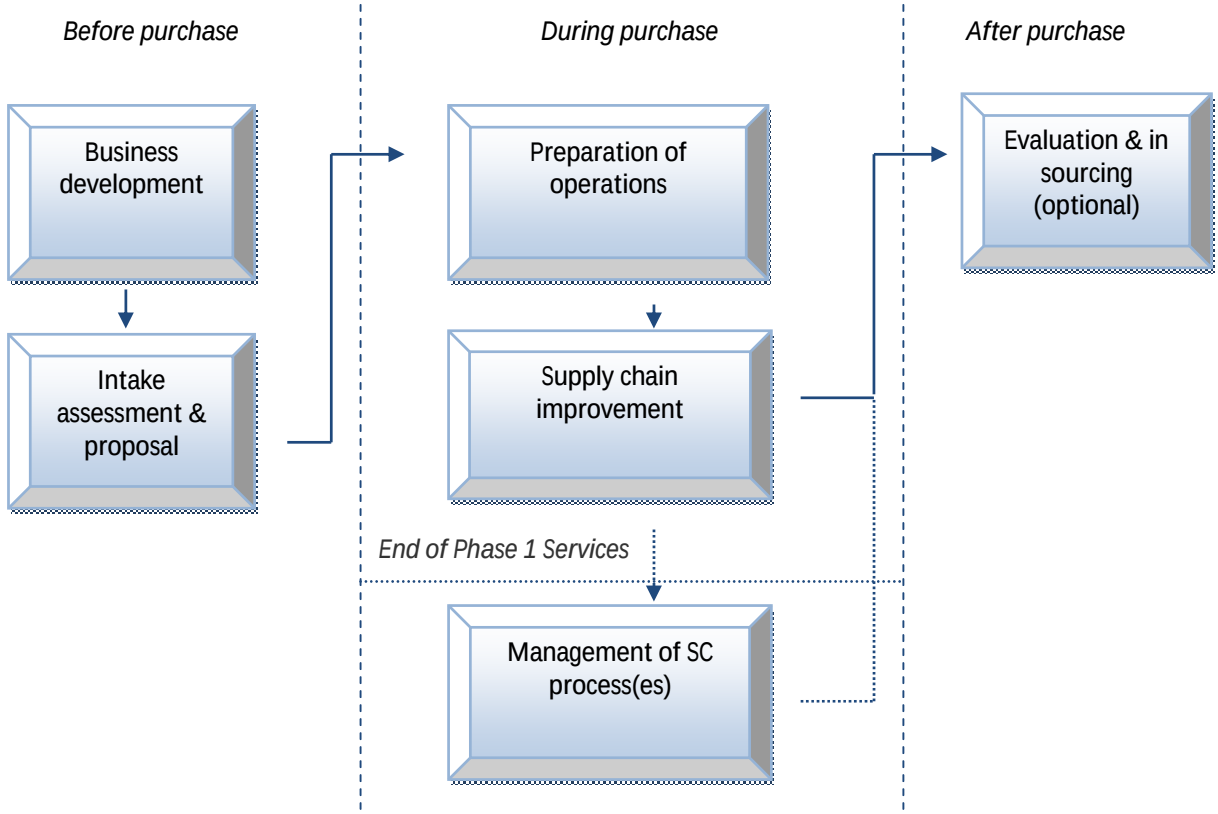



*Figure 30: Activity map of operations*

Once a 'go' is established operations need to be prepared. For instance, members of LBB Teams need to be trained on the client's organisation and the client's supply chain for its Asia operations needs to be aligned with LBB Teams. Once these steps are successfully conducted, LBB Teams is enabled to improve and manage its customers supply chains.

When the contract period is due evaluation will take place. The client can now opt for extension of the contract period, or their SCM will be transferred back to their organisation.

The next section elaborates on operational resources required for each primary activity.

## 9.2 Human, Organisational and Technological Capital Required for Primary Activities

Delivering the value proposition demands minimum operational requirements from LBB Teams. Optional organisational systems and routines were identified during discussions with the CEO of LBB Teams and previous analyses. During concept testing these requirements were amended and replenished. The elements in this section are identified as being critical for success of the new service.

First of all minimum requirements for the '*human capital*' dimension are identified. In order to deliver its value proposition it is required that employees of LBB Teams are present both in Europe as well as Asia. Employees should be able to conduct business in multiple languages (i.e. English, Dutch, German, Malay, Indonesian, Thai) and should be aware of the European as well as the Asian culture of doing business.

Secondly, organisational and technological requirements were identified for each primary activity (*Table 14)*. These are the 'organisational resources' and 'technological resources' as identified by Barney (1991). When offering *phase 1* solutions not all routines have to be conducted. The *italic* printed routines will most likely not be conducted during *phase 1* solutions.

*Table 14* provides elements which depict 'how' LBB Teams can deliver its value proposition. Findings are limited because they derive from primary data gathered for this specific research. No secondary data sources were used to enhance this statement.

Reliability would be increased if conclusions on operational requirements could be deducted from primary as well as secondary data sources. Therefore guidelines and consequences for operational requirements in each phase of LBB Teams' SC solution are derived from theory in the next section.

## 9.3 Requirements of SC Solutions

The essence of the primary activities *supply chain improvement* and *supply chain management* is that LBB Teams should be able to analyze and derive to conclusions about its client's SCs. For this purpose Lambert & Cooper's SCM framework (2000) is used as a guideline. It forms the basis for all three phases of the identified SC services. The framework allows LBB Teams to analyze the inter-organisational links and relationships of its customers SCM (*Section 3.1.3 / Figure 13)* which is necessary to execute the various roles it will take in its customer's value chain as described in *section 8.2*.

In short, LBB Teams will first have to identify the supply chain members which are critical to success of the company and the supply chain. These members are referred to as 'primary members' because they carry out value adding activities which contribute to the delivery of output for customers or market in Asia (Lambert & Cooper, 2000; Van de Vorst, 2006). The supporting members are the ones providing resources, knowledge, utilities or assets for the primary members of the supply chain.

Next, LBB Teams will have to identify the structural dimensions of the network. A network consists of three dimensions (Lambert & Cooper, 2000):

- Horizontal structure: the number of tiers across the supply chain;
- Vertical structure: the number of suppliers/customers represented within each tier;
- Horizontal position: the company can be positioned near or at the source of supply, more towards the point of consumption or somewhere in between.

Horizontal and vertical structures will vary on a deal to deal basis. LBB TEAMS' value proposition however has implications for its horizontal positioning because it is partly built around the premise that the company can establish physical presence near the point of consumption in Asia. So, LBB Teams has to position itself near the point of consumption.

| Business Development | Intake Assessment | Preparation of operations | Supply chain improvement | Supply chain management | Evaluation |
|---|---|---|---|---|---|
| Information reassurance:<br>o Introduction by phone / e-mail<br>o Participation in fairs / network events<br>o Top of list position at Google<br>o Sales meetings<br>o Office locations in The Netherlands, Malaysia and Thailand | Assessing benefits and risks | Assigning employees and trainees based on projects realized | Research, i.e. on:<br>o EurAsian (food manufacturing) SCs<br>o Market intelligence<br>o Halal logistics & SCM | *Planning, co-ordination and control of all identified business processes and activities* | Final performance report with recommendations on how to proceed |
| Conceptual explanation of LBB Teams' business model (explanation value proposition, portfolio presentation) | Determining exact operating model & costs | Assignment of suitable contact persons on both sides empowered to make decisions | Initiate suggestions for improvement | | *Transferring SC management back to client (optional)* |
| Advantages for organisation compared to current situation and/or other service providers (initial cost/benefit analysis) | Contract formulation (including dividing responsibilities among partners) | Training members of LBB Teams on client's organisation and IT-systems | Meetings with senior supply chain members on a regular basis | | |
| Project formulation | | *Aligning IT-systems of client at LBB Teams* | Performance reports on a regular basis | | |
| | | Familiarization of LBB's team with client's company & client's customers in Asia | | | |
| | | *Acquiring necessary facilities in Asia* | | | |
| | | *Hand-over of processes to LBB Teams* | | | |

*Table 14: Organisational capital required for operations*

Secondly SC Business Processes necessary to link with each of the SC members should be identified by LBB Teams. These SC business processes can be derived from Lambert & Cooper (2000; 72). The numbers of business processes that are critical and/or beneficial to integrate and manage between companies will likely vary on an individual basis. It is important that LBB Teams thoroughly analyzes and discusses with its clients which key business processes to integrate and manage.

Thirdly, different types of process links across the supply chain need to be identified. The levels of integration with the different supply chain members will vary from process link to process link and over time some links are more critical than others. LBB Teams should keep in mind that there are different types of business process links should be identified (Lambert & Cooper, 2000):

- Managed process links: those links which the focal company finds important to integrate and manage;
- Monitored process links: not as critical but important that these process links are integrated and managed appropriately. Establish monitoring and auditing.
- Not managed process links: links that the focal company is not actively involved in, nor are they critical enough to use resources for monitoring;
- Non-member process links: links between members of the focal company's supply chain and non-members of the supply chain. These links can and often will affect the performance of the focal company and its supply chain.

A textual representation of the SC network analysis for LBB Teams' services is depicted in *Table 15.* Herein the elements critical for success as well as the linkages which have to be established are described. Also some possible bottlenecks are identified based on perceived difficulty.

One can conclude that *phase 1* services can be distinguished from *phase 2* and *3* services. This is due to the 'management' component required. When offering *phase 2* and *phase 3* services LBB Teams will not only have to identify linkages in order to gather information, but also manage these linkages. *Phase 3* services demands most from LBB Teams' management skills as the number of linkages to integrate and manage are extensive. So, when offering the *phase 1* solution SCM processes might need to be *identified* in order to receive information contributing to the project at hand. When entering *phase 2* LBB Teams will gain additional responsibilities because it does not only has to *identify* but also *manage* some SCM processes. In *phase 3* this is extended to *identifying* and *managing* all SCM processes.

The researcher is of the opinion that LBB Teams will be exposed to a medium level of difficulty when identifying and deciding on the number of process links which have to be established and integrated with each supply chain member. Most difficulties will derive from managing process links with primary supply chain members and 'non-member' process links in offering *phase 2* and *phase 3* services. Hereby LBB Teams will to a large extent be dependent on cooperation from external parties. Reasoning stems from the fact that thousands of activities are performed and coordinated within a company (Lambert & Cooper, 2000). It will be a lengthy process to identify the number of business processes that are critical and/or beneficial to integrate and manage between members.

| | | Phase 1: consulting & research | Phase 2: project based SCM & improvement | Phase 3: contract based SCM & improvement |
|---|---|---|---|---|
| Analysis skills required / Mostly dependent on client = medium difficult | *Identify primary SC members* | Critical for success | Critical for success | Critical for success |
| | *Horizontal structure* | Importance depending on project | Importance depending on project | Identification necessary |
| | *Vertical structure* | Importance depending on project | Importance depending on project | Identification necessary |
| | *Horizontal positioning of LBB Teams* | Importance depending on project | Importance depending on project / Likely near point of consumption | Identification necessary / Likely near point of consumption |
| | *Number of SC business process to link* | Importance depending on project | Depending on size of project | Many, concerning entire EurAsia SC |
| Management skills required / Mostly dependent on external parties to cooperate Highly difficult | *Managed process links* | Depending on project (partial) identification is necessary for success in order to consult on performance improvement, feasibility of projects and/or market intelligence | Depending on project (partial) identification, establishing relationships and managing these linkages is necessary for success.<br><br>Links that might be necessary to manage:<br>- Suppliers<br>- LSPs<br>- Outsourcing partners | Identification, establishing relationships and managing these linkages is necessary for success of SCM solution.<br><br>Links that will be necessary to manage:<br>- Suppliers<br>- LSPs<br>- Outsourcing partners |
| | *Monitored process links* | Depending on project (partial) identification is necessary for success in order to consult on performance improvement, feasibility of projects and/or market intelligence | Depending on project (partial) identification, establishing relationships and managing these linkages is necessary for success | Identification, establishing relationships and managing these linkages is necessary for success of SCM solution |
| | *Not-managed process links* | Depending on project (partial) identification might be desirable | Depending on project (partial) identification, establishing relationships and managing these linkages might be desirable | Identification, establishing relationships and managing these linkages might be desirable |
| | *Non-member process links* | Depending on project (partial) identification is necessary for success in order to | Depending on project (partial) identification, establishing relationships and managing these | Identification, establishing relationships and managing these linkages is necessary for success of SCM solution |

| | | | |
|---|---|---|---|
| | consult on performance improvement, feasibility of projects and/or market intelligence | linkages is necessary for success<br><br>Links that might be necessary to manage:<br>- Governmental institutions<br>- Customs | Links that will be necessary to manage:<br>- Governmental institutions<br>- Customs |

*Table 15: Presentation of required elements for SC processes*

Secondly input for this reasoning stems from an interview which was conducted with Mrs. Hsiao. She sketched the example where the service provider has to schedule for the production plant. In its analyses it discovers that Monday is not a good day for distribution because distributing on Wednesdays leads to cost advantages. However, other supply chain partners (like suppliers, customers) should then also be flexible to change days. This might impose problems which disable the service provider to effectively manage, whereby offering improvement to its client.

To conclude, how well LBB Teams can manage its client's supply chains depends on cooperation agreements with primary supply chain members and non-member process links.

# CHAPTER 10 CONCLUSIONS & RECOMMENDATIONS

## Introduction

This chapter will shortly elaborate on the main findings in *section 10.1* before it reflects on the limitations of the research in *section 10.2*. Thereafter recommendations will be established in *section 10.3*.

## 10.1 Conclusions: Consulting the Supply Chain First

An entire process of analyzing, developing, testing, formulating a strategy and providing options for operations has been accomplished. This research aimed to identify how LBB Teams could facilitate key processes in its clients EurAsia SCs. At the start of this research little was know about which SCM services to offer to the food manufacturing industry by a small company like LBB Teams. The inductive approach of new service development provided the researcher with a framework for achieving this objective in a structured matter.

Derived from several analyses it was identified that LBB Teams should offer a distinct package of SC services. Its service portfolio will exist of improvement and management of *physical distribution*, i.e. making sure that its customers products, services and related information will efficiently and effectively flow from the point-of-origin to the point-of-consumption. This means that it will have to conduct logistics as well as marketing related activities for its clients.

LBB Teams' background in consulting & research enables enhancement of this service proposition. Interviews revealed that proposing suggestions for improvement is a highly valued characteristic of SC service providers. Thus it should definitely provide consulting & research solutions.

However LBB Teams' characteristics also put limitations on the proposed service. This derives from a lack of operational experience and a weak capital position which are considered crucial in offering total supply chain management solutions. Further findings from literature, customers and discussions emphasize that establishing trust is important. In order to gain operational experience, capital and generate trust a step-by-step approach is proposed.

This approach implies that the service will be provided into three phases. These phases are:

- Phase 1: Consulting & Research solutions for EurAsia SCs
- Phase 2: Project based SCM & improvement
- Phase 3: Contract based SCM & improvement

The content of these phases was established by analyses, which were modelled and conceptually tested. It was indicated that LBB Teams should operate as an extension of its client. It will hereby take up an active role in its customer's value network. Therefore linkages have to be established with several SC network members. In order to become operational this requires that LBB Teams first identifies the key supply chain members with whom to link processes. Then it should decide on which processes to link with each of the key supply chain members. Finally it has to decide on the level of integration and management which should be applied for each process link. Especially the

elements 'managed process links' and 'non-member process links' may be hard to control. This derives from the reasoning that effective management of these process links is dependent on cooperation of external parties.

To conclude, LBB Teams is not yet able to provide total supply chain management solutions. It is highly recommended for the company to continue its consulting and research solutions first. Following these services it can offer supply chain management solutions in Asia on a project base. This will enable it to gain operational experience by managing one supply chain activity at a time. Once LBB Teams gains operational strength it might consider managing its client's entire EurAsia SC on a contract base.

## 10.2 Reflection

The research was an extensive process which led to many statements and conclusions. However the value of the findings is limited to execution of the research design. First of all, a limitation on this research derives from the qualitative approach which resulted in reduced generalisation of the findings. In order to be able to generalize about opinions and practices samples of sufficient numerical size should be deployed (Saunders et al., 2007). In this research sample size was limited to 9 respondents identifying CSFs of SCM and 4 respondents cooperating to concept testing. The limited sample size was due to a lack of cooperation by Dutch food (ingredient) manufacturers to participate in the research. Also, for concept testing the researcher aimed to conduct interviews with SCM experts in the food manufacturing industry. Respondents should have senior experience in SCM which limited the number of respondents qualified to participate in the research.

Another difficulty deriving from qualitative data relates to the aim of combining primary and secondary data wherever possible. During an analysis of customer design input (chapter 5) the researcher tried to establish linkages between SCM activities and processes as identified by Elmuti (2002) and primary data. Assigning primary data to this secondary data source was hindered by the qualitative nature of the responses. In order to enhance validity of the subdivision of the several CSFs to SCM activities and processes brainstorm or focus group sessions would have been desirable. However, this was not feasible because of time restrictions.

Another important limitation to generalisation but also to reliability of the findings derives from the fact that information on small and medium sized enterprises all originates from secondary data sources. These companies were found to be unwilling to cooperate to the research. This was mostly due to limited time and internal resource restrictions at these companies. As a result interviews were limited to respondents of MNCs. Small and medium sized enterprises might respond differently during CSFs identification and concept testing than MNCs. For instance, some elements of concept testing did not have practical relevance to the MNCs for they i.e. already established Asia operations. Respondents reacted hypothetically on these questions which imposes pressure on the validity of the findings.

Time restricted the researcher in identifying a detailed description of the exact practices and processes LBB Teams' will have to conduct in order to offer its services. In other words; 'how' can LBB Teams offer its services? Future research could identify best practices and/or exact resource

configuration for each primary activity. I.e. how can sales be generated most effectively? How to make cost/benefit analyses? Also, practices belonging secondary activities like human resource management and firm infrastructure should be identified followed by an analysis on how these activities can best be conducted.

## 10.3 Recommendations

One of the findings is that the number of food (ingredient) manufacturer's in the Netherlands is rather limited. To illustrate, when deciding on which target group to aim for the researcher executed a selection by the Dutch Chamber of Commerce in January 2009. About 4500 companies are said to be active in the Dutch food manufacturing industry (EVD.nl, 2006). However, only 148 companies in The Netherlands were identified to be manufacturing flour, sugar, dough, dietary nutrition and a range of other companies active in manufacturing powders, dried ingredients and/or ingredient mixes. This leads to the conclusion that having the focus on the Dutch food manufacturing industry on its own might be too narrow. It is recommended that future research extends the scope of the new service to other industries and countries. Because of its consulting background LBB Teams might for instance offer its services to other service providers. These are interesting opportunities for future research.

Interviews further revealed that an unidentified share of companies belonging to the industry is not interested in Asia. This might derive from perishable products and/or the absence of demand for these products for Asia. Good examples of this situation can be found in companies active in cheese manufacturing. First of all, cheese is a perishable product. But secondly, and more importantly, there is low demand for cheese in Asia. This might originate from different eating habits and a different sense of taste. Further, there are already other SC solution providers targeting the niche market consisting of cheese manufacturers. An example is *World of Foods*, a Dutch SC solution provider which aggregates demand for cheese from different parties in Asia, selects distributors of cheese in The Netherlands and then arranges for logistics towards Asia (Worldoffoods.org). Understanding the underlying reasoning of this attitude might create opportunities for service providers or at least enable the service provider to use its efforts more effectively in business development.

One can conclude that the Dutch food manufacturing industry is a possible target market for LBB Teams but it will most likely not be easy to select and reach possible clients. It might therefore be beneficial for LBB Teams to focus on European companies as it initially aimed for. However, findings that enhance this recommendation fall beyond the scope of the research.

Next the research focussed on physical distribution management. This is just a part of SCM. Opportunities for future research are to identify which services LBB Teams could provide on material management. Regarding 4PL services the environment apparently has changed since Eyefortransport conducted its research in 2006 (*section 3.2.3*). Yet unpublished results by Mrs. Hsiao predict a decrease for the 4PL market in The Netherlands. But she also concludes that the market for 4PL in Taiwan is increasing. Offering its solution to companies in Asia as well as Europe might therefore be beneficial for LBB Teams.

One can conclude that there are many opportunities for further research. These mostly derive from 'how' to offer the services and to 'whom'. In fact, Mrs. Hsiao's PhD research already attempts to answer the latter question by identifying reasons for outsourcing to a 4PL. Research could be extended to identify viable industries to target when providing SCM solutions.

Besides these findings a world wide economic crisis has been recently developing. Economic growth is expected to fall by 2 per cent in 2009. This results in a lack of credit and finance for traders and the slow down of the economy results in slowing down international trade (WTO.org, 3 February 2009). Fortunately Western Europe faces medium economic risks. In contrast, East Asia shows high exposures to economic risks. As from the end of 2008 China's growth is significantly reduced. Most Asian economies are heavily exposed to this hard landing in China. Asia is also subject to risks related to the price of oil, dollar fluctuations and a retrenchment from globalization, with the latter being especially acute for the small and open economies of Hong Kong SAR and Singapore (World Economic Forum 2009). Common sense directs that this will likely affect LBB Teams when it tries to sell its services. Underlying reasons of companies not contracting LBB Teams might originate from risk reducing behaviour and being reluctant or even unable to pay for additional services or to implement changes.

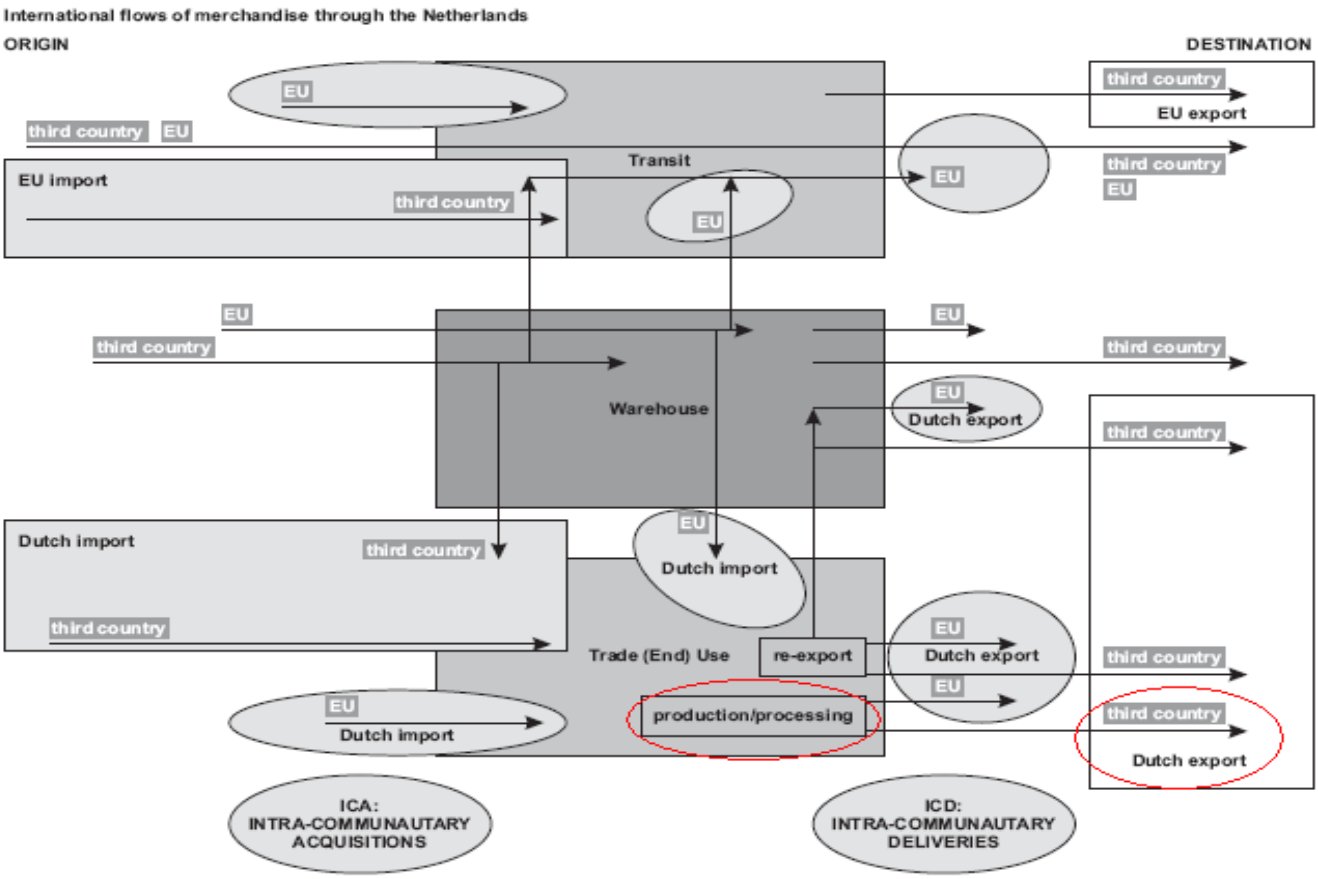
To conclude; these are turbulent times for businesses to develop. In order to enhance the chance of success LBB Teams should target multiple industries in diverse countries. Whilst contacting potential clients it should emphasize its risk reducing three-phased-service model. Operating by this model enables the client to maintain control because of the in-sourcing principle. Further it should emphasize that it provides low initial costs (i.e. no expatriate salaries and facilities) and also important, low exit costs (i.e. no assets). Convincing potential clients of the real added value LBB Teams will bring through its consultative approach will enable this adventurous and innovative company to step up as a supply chain management service provider.

APPENDICES

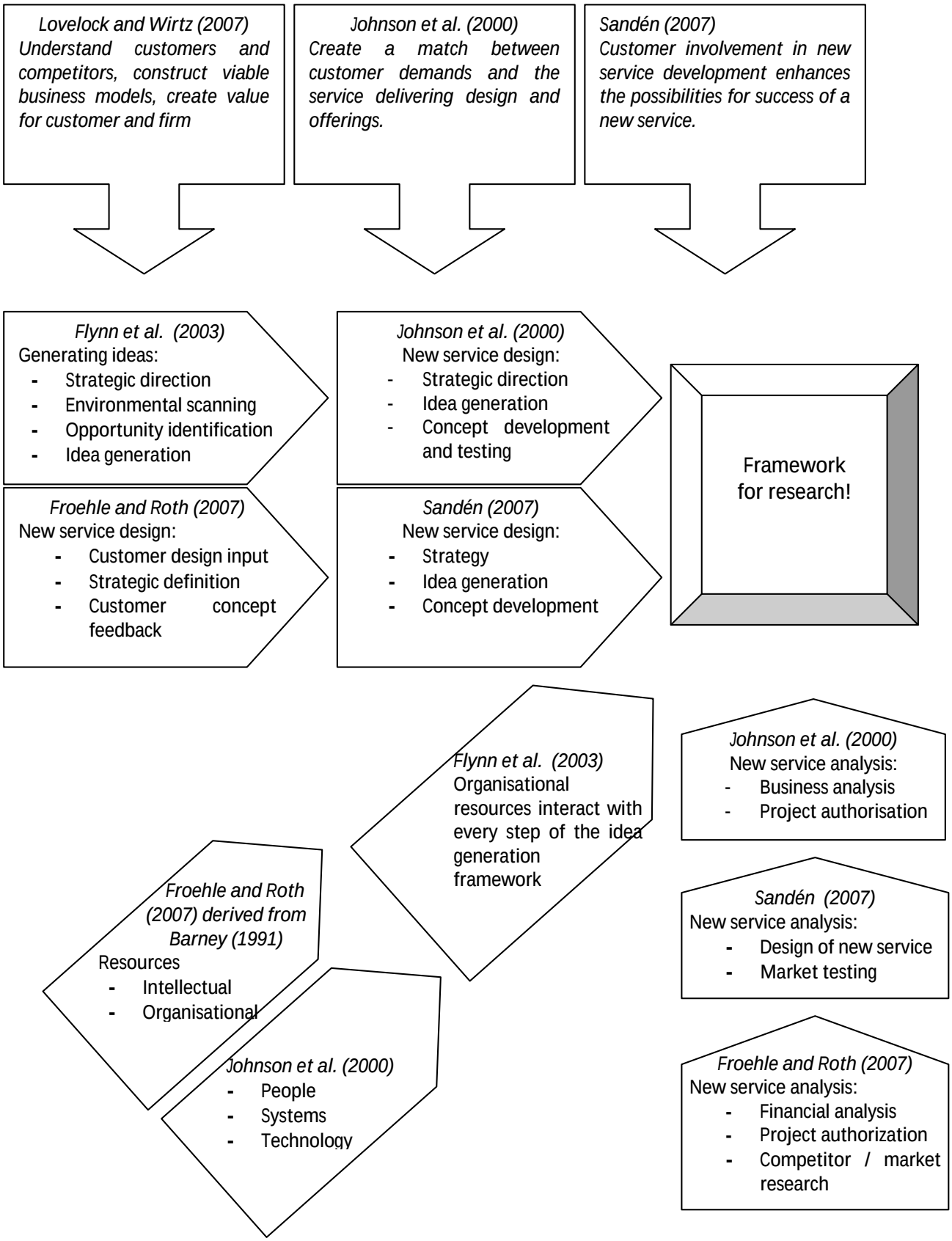
APPENDIX A

*Target group situated in a framework of international flows through the Netherlands*

*Source: CBS, 2008*



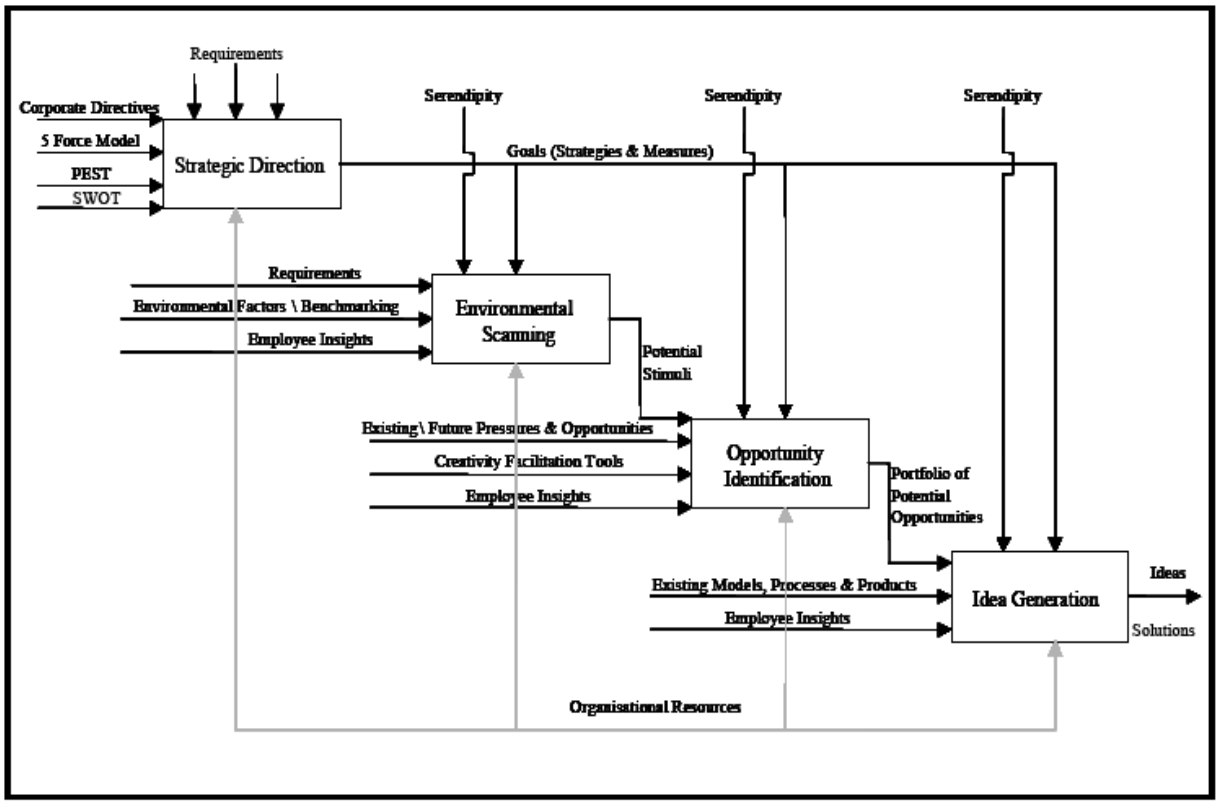
APPENDIX B
*Framework for research*



APPENDIX C
*List of keywords for literature search*

- Supply chain management / SCM;
- Business process outsourcing / BPO;
- Fourth party logistics;
- Outsourcing;
- Asia;
- Food manufacturing industry / Food ingredient industry;
- Voeding- en genotsmiddelen industrie;
- Developments;
- New service development;
- Service design;
- Value chain;
- Value proposition;
- Business model;
- Operations model;
- Success factors AND <any of the mentioned key words>;
- Obstacles AND <any of the mentioned key words>;
- Opportunities AND <any of the mentioned key words>;
- Threats AND <any of the mentioned key words>;
- Requirements AND <any of the mentioned key words>

APPENDIX D
*Idea Generation Methodology, Flynn et al. 2003*



APPENDIX E

*Typology of intangible resources, derived from Fernández et al., 2000*

| | Category | Components | Mechanisms |
|---|---|---|---|
| People dependent | Human capital | - generic knowledge<br>- specific knowledge | Contracts |
| People independent | Organisational capital | - Norms and guidelines<br>- Databases<br>- Organisational routines<br>- Corporate culture<br>- Co-operation agreements | Causal ambiguity<br><br><br>Agreement stability |
| | Relational capital | - Reputation<br>- Brands<br>- Commercial name<br>- Loyalty, long term relationships<br>- Distribution channels | First mover advantages |
| | Technological capital | - Patents<br>- Trade secrets<br>- Industrial models and drawings<br>- Copyrights | Imperfect mobility |

APPENDIX F
*Customer design input*

Firstly, *Table 16* presents CSFs of SCM as identified by respondents compared to SCM activities identified by Elmuti (2002). The *italic* printed lines are the activities involved in SCM, as identified by Elmuti. Answers given by respondents are subdivided to these activities below. Aspects related to market intelligence and costs were identified in this research which could not be subdivided to Elmuti's categorization and are therefore mentioned as separated aspects in the table.

| CSFs SCM | Obstacles SCM |
|---|---|
| *Inventory management and control* | ~~*Inventory management and control*~~ |
| ● good coordination production/warehousing and sales<br>● maintaining low inventory (i.e. to reduce working capital) | |
| *Information technology including internet* | *Information technology including internet* |
| ● IT system (ERP) | ● Complexity ERP |
| *Overall logistics (raw materials, work in progress, finished goods, services and related information .. to customer requirements)* | *Overall logistics (raw materials, work in progress, finished goods, services and related information .. to customer requirements)* |
| ● Obeying special customer requirements | ● Providing testing in Asia<br>● Asia operations (warehousing, distribution etc) |
| *Procurement and purchasing* | *Procurement and purchasing* |
| ● purchasing/procurement | ● Provide supply (raw materials) for operations in Asia |
| *Distribution and/or sales of products or services* | *Distribution and/or sales of products or services* |
| ● physical distribution<br>● ability to comply with formalities / documentation<br>● ensuring high quality of products along SC<br>● customer service<br>● being a reliable partner to its customers<br>● short delivery times / JIT | ● Regulation (i.e. labelling, validation of products)<br>● Protection (i.e. import restrictions)<br>● Time difference between EU and Asia<br>● Cultural differences<br>● Ensuring quality of products along SC<br>● Delays in shipments affecting JIT management |
| Manufacturing of the final product as a whole | ~~Manufacturing of the final product as a whole~~ |
| ● production management (bottle necks, capacity) | |
| Outsourcing of certain functions (like HRM and information) | ~~Outsourcing of certain functions (like HRM and information)~~ |
| ● supplier selection<br>● partner selection LSPs | |

| Additional CSFs SCM | Additional Obstacles SCM |
|---|---|
| Sales forecasting & market intelligence (competitors, market, industry) | Market forecasting<br>Creating steady demand |
| Cost effectiveness in SCM | |

*Table 16: CSFs & Obstacles Food (ingredient) Manufacturer's SCM*

These CSFs were identified by individual respondents as presented in *table 17.*

| CSFs SCM (adjusted from Elmuti 2002) | FIM | FIM | FIM | FIM | FM | FM | FM | FM | AFM |
|---|---|---|---|---|---|---|---|---|---|
| *Inventory management and control* | | | | | | | | | |
| good coordination production/warehousing/sales | ■ | ■ | | | | | | | |
| maintaining low inventory | | | ■ | | | | | | |
| *Information technology including internet* | | | | | | | | | |
| IT system (ERP) | ■ | ■ | | | | | | | |
| *Overall logistics (raw materials, work in progress, finished goods, services and related information .. to customer requirements)* | | | | | | | | | |
| Obeying special customer requirements | | ■ | | | | | | ■ | |
| *Procurement and purchasing* | | | | | | | | | |
| purchasing/procurement | | ■ | ■ | | ■ | | | | |
| *Distribution and/or sales of products or services (delivery)* | | | | | | | | | |
| physical distribution | | | ■ | ■ | | | | ■ | ■ |
| ability to comply with formalities / documentation | ■ | ■ | ■ | | ■ | ■ | | ■ | ■ |
| ensuring high quality of products along SC | | ■ | ■ | ■ | ■ | | | ■ | |
| customer service | | ■ | ■ | | | | | ■ | ■ |
| being a reliable partner to its customers | | ■ | | | ■ | | | ■ | |
| short delivery times / JIT | ■ | ■ | ■ | ■ | | | | | |
| *Manufacturing of the final product as a whole* | | | | | | | | | |
| production management (bottle necks, capacity) | | ■ | | | | | ■ | | |
| *Outsourcing of certain functions (like HRM and information)* | | | | | | | | | |
| supplier selection | | | | | ■ | | | | |
| partner selection LSPs | | | | ■ | | | ■ | | |
| *Added CSFs:* | | | | | | | | | |
| Sales forecasting & market intelligence | ■ | ■ | ■ | | | ■ | ■ | | |
| Cost effectiveness in SCM | | ■ | ■ | | ■ | ■ | | | |

*Table 17: Identified CSFs SCM for Asia operations*

Further, Figure 31 shows that SCM activities related to distribution and/or sales of the product are most critical for success.

**CSFs SCM***(categorization by Elmuti, 2002)*

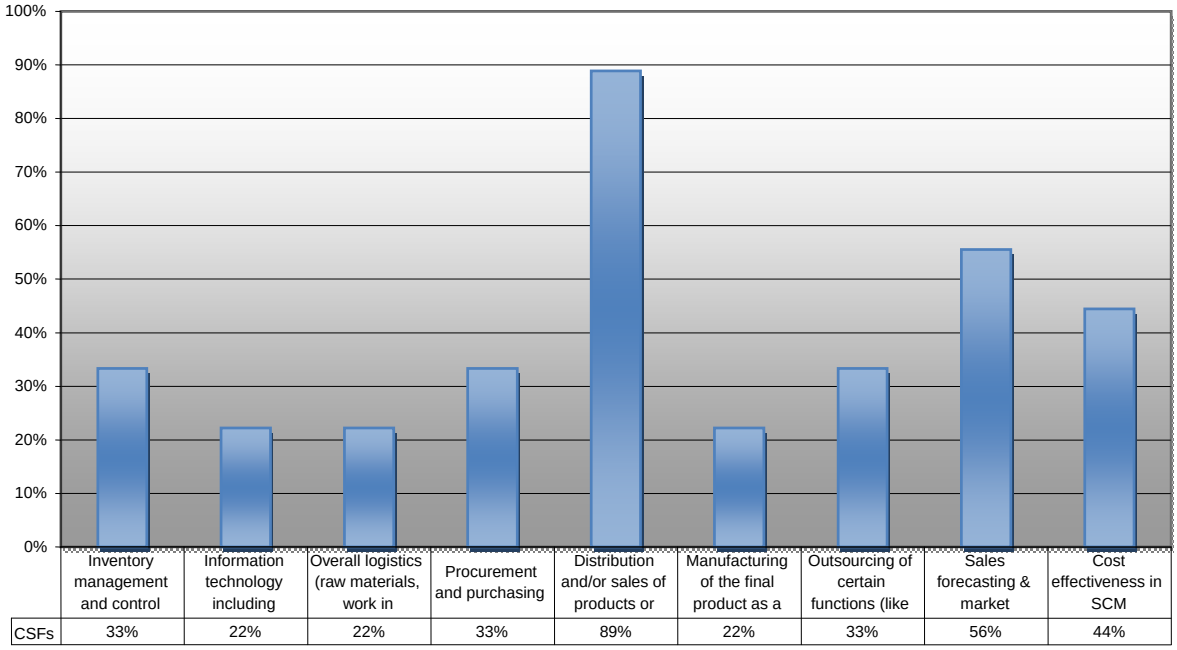



*Figure 31: Graphical presentation of the aggregated elements derived from Elmuti (2002)*

Next, the following obstacles of SCM were identified by the individual respondents (*Table 18).*

| Obstacles SCM (adjusted from Elmuti 2002) | FIM | FIM | FIM | FIM | FM | FM | FM | FM | AFM |
|---|---|---|---|---|---|---|---|---|---|
| *Information technology including internet* | | | | | | | | | |
| Complexity ERP | | ■ | | | | | | | |
| *Overall logistics (raw materials, work in progress, finished goods, services and related information .. to customer requirements)* | | | | | | | | | |
| Providing testing in Asia | | ■ | | | | | | | |
| Asia operations (warehousing, distribution etc) | ■ | ■ | | | | | | | |
| *Procurement and purchasing* | | | | | | | | | |
| Provide supply (raw materials) for operations in Asia | ■ | | | | ■ | | | | |
| *Distribution and/or sales of products or services (delivery)* | | | | | | | | | |
| Regulation (i.e. labelling, validation of products) | | ■ | | ■ | | | ■ | | ■ |
| Protection (i.e. import restrictions) | ■ | ■ | | | ■ | | | | |
| Time difference between EU and Asia | | ■ | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Cultural differences | | ■ | | | | | | | |
| Ensuring quality of products along SC | | ■ | | ■ | | | | | |
| Delays in shipments affecting JIT management | ■ | | ■ | | | | | | |

*Added obstacles:*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Market forecasting | ■ | | | | | | | | |
| Creating steady demand | | | | | | ■ | | | |

*Table 18: Identified obstacles SCM for Asia operations.*

The way distribution to Asia is organized by respondents is depicted in *Table 19.*

| Distribution to Asia | FIM | FIM | FIM | FIM | FM | FM | FM | FM | AFM |
|---|---|---|---|---|---|---|---|---|---|
| Distribution to Asia coordinated by own organisation in NL | ■ | | | ■ | ■ | ■ | ■ | ■ | |
| Distribution to Asia coordinated by own organisation in Asia | | ■ | ■ | | | | | | ■ |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Rental of capacity from LSP (inward logistics) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Rental of capacity from LSP (outward logistics) | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | ■ |
| 4PL (inward logistics) | | | | | | | | | |
| 4PL (outward logistics) | | | | ■ | | | | | |

*Table 19: Organisation of distribution to Asia*

Other remarks and important points which were not explicitly asked for but where mentioned during the interviews are:

- One respondent suggested that LBB Teams should provide supply chain integration
- One respondent comments that, because of relatively small size LBB Teams it should find a niche to operate in
- Another respondent made clear that his company wants to keep its SCM in one place in order to maintain a clear overview
- Also a respondent foresaw a future scenario where the LSP takes financial ownership of its products.

APPENDIX G
*Environmental analysis*

*PESTEL analysis*

By this analysis all elements considered to be relevant for and/or influencing the service design derived from the macro environment are summarized.[6]

*Political*

- Protectionist pressures are building (WTO, prospects for 2008)

*Economic*

- There is a slowdown in economic activity of developed economies. For Europe this slowdown is particularly pronounced for intra-EU trade (WTO, prospects for 2008).
- Expected import growth of developing countries estimated at 10% (WTO, prospects for 2008)
- Economic expansion rates in Asia show no signs of deceleration. Growth of GDP in developing countries maintains above 5% and the most populous developing countries in terms of high economic growth are China and India (WTO, prospects for 2008)
- There is a favourable investment climate in developing countries (WTO, prospects for 2008)
- Decreasing USD / appreciation Euro makes US products less expensive. This leads to (even more) pressure on margins for European industry (i.e. Friesland Foods Domo already experiences very high competition from US with low margins)
- Worldwide competition in most industries

*Socio-economic*

On a worldwide scale, the following socio-economic developments might are identified as sources influencing the service design:

- Approximately 25% of the world population is Muslim; the Halal market is well on its path in becoming the most important category in global food development (Halaljournal.com, 12 Sept. 2008).

Socio-economic characteristics of the Asian food (ingredient) market:

- Growing market (Austrade.gov.au, June 2008)
    - Increasing purchasing power
    - Changing eating habits, i.e. growing demand for breakfast and cereals products (Bakeryandsnacks.com, 2007)
    - Malaysia remains net importer of processed foods (key problems: shortage of raw materials, lack of technology and limited R&D)
- Demand for
    - Food safety
    - Genetically pure products
    - Halal products (*Table 20*)

    **ð** Create effective SCM as unique selling point in order to cope with customer requirements (Hollandtrade.com, May 2008)

[6] This analysis is conducted between May 2008 and August 2008 and does not consider the economic turmoil.

| *Country* | *Population* | *% Muslim* |
|---|---|---|
| Indonesia | 237,512,352 | 86.1 |
| Malaysia | 25,274,132 | 60.4 |
| India | 1,147,995,904 | 13.4 |
| Philippines | 96,061,680 | 5 |
| Thailand | 65,493,296 | 4.6 |
| China | 1,330,044,544 | 1 -2 |

*Table 20: Muslim population in selected countries of Asia (CIA World Factbook, September 2008)*

Specific to operating in Malaysia the following socio-economic characteristics are identified:

- Large labour pool of skilled employees in Malaysia (lowtax.net)
- Malaysians generally speak good English, i.e. compared to Thailand
- Malaysia has a relatively young population (CIA Factbook, 2008)
- There are changing eating habits in Malaysia; there is a high urbanisation and concentration of wealth in cities, 'westernization' and a growing awareness of healthy food (Austrade.gov.au, June 2008)
- The market for processed foods in Malaysia is mature (Austrade.gov.au, June 2008)

*Technological*

- Advanced technology in IT enables LBB Teams to operate as a 4PL, because this model relies heavily on IT-systems in order to plan and optimize across the demand, supply, inventory and distribution activities (Rushton and Walker, 2007)

*Environmental & Legal*

The following environmental and legal factors influencing the service design are identified (Fao.org, June 2008):

- Due to upcoming European legislation and environmental pressures, companies are being encouraged to improve asset utilisation and efficiency
- Food safety and quality along the food chain is important
- There is a global raw materials scarcity which creates a pressure for companies to look beyond current boundaries.

Specifically for Malaysia, the following environmental and legal influences are identified:

- Halal Logistics Standards is under development in Malaysia
- Key opportunities for the food industry to export to Malaysia are flour based products, cereal-based products, condiments, nutritional snacks, health foods, and Halal-processed meat (Austrade.gov.au, June 2008)
- Tax environment in Malaysia (Lowtax.net, June 2008)
    - Malaysia does not have annual wealth taxes, estate duties, gift taxes, accumulated earnings tax, federal income tax, controlled foreign company legislation, thin capitalization rules and transfer pricing rules. Capital gains tax when levied is only levied in very limited circumstances.
    - Corporate tax is slightly higher than in Holland (25.5% in 2007) but the rate will be cut to 27% in 2007, followed by an additional one-percentage-point cut in 2008.
    - Duty free tax environment of Labuan; establishment of an offshore company in Labuan offers reduced tax payment down to 3% or a flat tax rate of RM20.000 annually. Restriction: no trade with Malaysia.

- Malaysia offers tax incentives to promote the Halal industry. Key areas for development are: specialty processed foods, cosmetics and personal care products, pharmaceuticals, Halal ingredients, livestock and meat products. There also is an exemption for import duty on raw material (Asian Economic News, May 12, 2008).
- There is a surplus of land, low costs of accommodation and low labour costs in Malaysia (Lowtax.net, June 2008)
- Corruption in Malaysia is relatively low (43rd out of 180 countries)[7] where corruption in 'traditional' outsourcing countries like India and China is relatively high (Transparency.org, January 2009)

[7] India, China = 72, Thailand = 84, Indonesia = 143rd out of 180.

APPENDIX H
*SWOT-analysis*

Derived from LBB Team's organisational characteristics and requirements of the new service strengths and weaknesses are identified. Based on customer design input, industry and macro environmental factors opportunities and threats the new service design was formulated.

<u>Strengths & Opportunities derived from strenghts</u>

a. Background in consulting and research allows for:
    i. Providing strategic and solution driven answers
b. Extensive knowledge base of LBB Teams on:
    i. SC design and improvement (in particular on agricultural, food and chemicals)
    ii. Halal logistics and supply chain management
    iii. Analysis and design of industrial clusters
c. Physical presence in Europe as well as Asia / located nearby clients as well as the market allows for:
    i. Frequent visits to clients in Europe
    ii. Not being hindered by different time zones in communication on behalf of its clients with Asian customers
    iii. Low travelling costs in Asia
    iv. Feeling with market and competition in Asia
    v. Sales Teams in Asia
    vi. Asia operations offers operating in a low cost environment
    vii. Fast acting on changing circumstances in Asia
d. Multicultural team
    i. Cultural understanding of both Europe as well as Asia
    ii. Can operate in multiple languages
e. Agile
    i. Not burdened by assets (independent)
    ii. Size enables it to be flexible and act fast on changing circumstances (i.e. adapt strategy to internally or externally imposed change)
    iii. Flat organisational structure with short communication lines enables fast decision making and therefore a narrow time frame in which LBB can provide its services (fast response to demands)
    iv. By working with trainees & flexible employees knowledge can be assigned when necessary
    v. Next to SCM solutions LBB Teams can also offer consulting and research
f. Risk reduction for LBB Teams as well as client by using outsourcing model
    i. Client maintains control because of in-sourcing principle; once SCs are optimized they will be in-sourced back to client
    ii. Low initial costs (i.e. no expatriate salaries and facilities)
    iii. Low exit costs (i.e. no assets)
g. Value adding
    i. Improves its customers SCM, thereby reducing costs
    ii. Enables its clients to become (more) successful in Asia (i.e. by increasing sales)
h. Reliable partner
    i. Dutch company, Dutch CEO with TNO background

   ii. Track record: governmental institutions, Halal authorities, Friesland Foods Domo, Nestle etc.
   iii. Discrete (i.e. LBB Teams will not represent competing companies)
i. Low cost of operations
   i. Low entry and exit costs because of low fixed assets
   ii. Low travelling costs in Asia
   iii. Low costs of facilities in Asia
   iv. No expatriate salaries and facilities necessary
j. Personal approach
   i. Offers multiple solutions tailored to its customers desires
   ii. Thinks in a proactive manner with its customers
   iii. Operations by customer's IT systems
k. Good partnership, not being burdened by assets allows for:
   i. Operating more flexible than large 3PL+ players
   ii. Making decisions in the customer's best interest, not having to make trade-offs against its own best interest

<u>Weaknesses</u>

a. Lack of purchasing power in transportation and warehousing makes LBB Teams unable to compete on price
b. Lack of integrated network over Asia
c. Limited cash flow, therefore LBB Teams:
   i. Will not take ownership of products
   ii. Will not offer financing
d. Lack of operational experience
e. No brand awareness of LBB Teams SCM solution

<u>Opportunities (externally imposed)</u>

*Products*

a. Consulting
   i. SC performance improvement
   ii. Halal logistics
   iii. Analysis and design of industrial clusters
b. SCM Outsourcing; facilitating very diverse elements of its customers SCM:
   i. Coordinating production, warehousing and sales for Asia operations
   ii. Providing supply chain integration for Asia operations
   iii. Take on financial ownership of clients products and become distributor for Asia
   iv. Enhancing supply chain visibility
c. Procurement for (Asia) operations:
   i. Supplier selection
   ii. Sourcing
d. Market intelligence:
   i. Market studies in Asia (i.e. sales forecasting, industry development analysis, competitor analysis etc)
e. Decreasing delivery times / improving JIT ratios by:
   i. Feasibility study on presence closer to Asian market (i.e. cost/benefit analysis of setting up production location / CODP in Asia) in order to shorten lead times

   ii. Establishing and managing production location / CODP
   iii. SC analyses in order to identify bottlenecks
f. Cost reduction by:
   i. Feasibility studies on reducing cost by establishing presence in Asian market in order to decrease inventory costs
   ii. SC analyses (i.e. to identify bottlenecks / improve JIT ratio)
   iii. Good sales forecasting in order to decrease inventory costs
g. Quality assurance:
   i. Consulting on quality improvement (i.e. performance improvement studies)
   ii. Providing quality control (i.e. of sourcing, production, agents) in Asia
h. Excellent customer service in Asia:
   i. Representation of FM in Asia by LBB Teams, i.e. on key events
   ii. Crisis management in Asia
   iii. Establishing one point of contact for FMs Asia operations
   iv. Provide testing of customers products at clients in Asia
   v. Provide customization of products in Asia (i.e. labelling, packaging)
   vi. Managing customer's Asia operations
i. Physical distribution management
j. Certification and custom formalities:
   i. Provide support and counselling regarding changing conditions in legal environment (i.e. labelling, packaging, customs)
   ii. Assistance with general certification of products/logistics
   iii. Assistance with and consulting on specific certification, i.e. Halal logistics certification.
k. Business development for FM in Asia / establishing operations for FM in Asia:
   i. 'Make life easier', i.e. by applying for bank accounts, arranging office facilities, hiring employees etc
   ii. Be able to operate with employees speaking the same language and knowing the culture of the customer in Asia
   iii. Avoid burden of physical distance from Europe, i.e. operations in same time zone as customer
   iv. Be able to quickly respond to changing circumstances due to presence to market
l. Risk reduction for European companies, by contracting LBB Teams companies:
   i. Reduce the risk of corruption and fiddling of resources
   ii. Have low start-up and exit costs
   iii. Ensure supply chain quality for Asia operations

*Markets*

- Agricultural, food and chemicals
  - Largest companies in the Dutch Food Manufacturing industry are active in baked goods, processing of slaughtered animals and meat processing, dairy products and animal feed.
  - A recommended strategy for medium sized food manufacturers is creating a niche market to operate in (van Duren et al, 2003) , i.e. in Halal.
  - Other recommended strategies for medium sized food manufacturers are product innovation, price and cost management, customer service, quality and flexibility in

operations. LBB Teams can consult on or provide for these strategies for its customer's Asia operations.
    - Large emphasis on food safety, health and ethics allows for LBB Teams to provide i.e. quality assurance, advising on issues regarding genetic modification, Halal etc.
    - Rising food prices provide LBB Teams with the opportunity to assist in procurement of raw materials in Asia.
- Halal logistics and supply chain management
    - Twenty-five percent of the world population is Muslim which creates a large demand for Halal food products
    - There is a large demand for Halal products in Asia and a Halal logistics standard is under development. Malaysia offers tax incentives to promote Halal industry and the key areas of Halal industry development are specialty processed foods, cosmetics and personal care products, pharmaceuticals, Halal ingredients, livestock and meat products.
    - Companies in Europe as well as Asia with a focus on Halal products are potential candidates for consulting on and conducting of Halal logistics by LBB Teams
- Europe (especially Western Europe)
    - LBB Teams enables companies to look beyond Europe and thereby avoiding the threat of a slowdown in intra EU trade.
    - Unpredictable fuel prices: LBB Teams can offer its European clients cost advantage (lower transportation costs) by establishing production facilities and/or CODP in Asia
- Asia
    - Asia is an important market for FM because of increase in GDP, relatively low labour costs, favourable investment climate and changing eating habits.
    - Companies in Asia are also potential candidates for LBB Teams supply chain management solutions
    - Malaysia offers many opportunities for food (ingredient) manufacturer's because of rising GDP, relatively low operating, labour and assets costs, young population with changing eating habits, net importer of processed foods, large labour pool of skilled employees, good English skills, favourable tax environment and relatively low corruption.
    - Key opportunities for the food industry to export to Malaysia are flour based products, cereal-based products, condiments, nutritional snacks, health foods, and Halal-processed meat (Austrade.gov.au, June 2008).
    - China and India have high corruption where Malaysia doesn't (Transparency.org, January 2009)
    - China is important both as market and source of competition for FMs:
        i. Provide SCM services for customers China operations
        ii. Assign Chinese employee(s) who understand culture, language and way of doing business when a customer has specific requirements regarding China
        iii. Gather market intelligence (market developments, sales forecasts & competition analysis)

*Technology*

a. IT-systems, i.e. Enterprise Resource Planning (ERP) systems, are considered critical success factors of FMs. LBB Teams can act on this by operating based on complete alignment with its customers IT-systems.
b. Operating as a 4PL with an asset free approach requires low capital of entry
c. Offering strategic, solution driven and global answers

<u>Threats</u>

- China
  i. LBB Teams does not have knowledge of this market, customs and language
  ii. Relatively high corruption in China (Transparency.org, July 2008)
- European focus
  i. Food (ingredient) manufacturers which cannot be convinced to become active in Asia narrow the target group, and group of potential clients of LBB Teams, of the research
- Cost focus of clients
  i. LBB Teams cannot provide cost advantage in physical distribution costs because it does not have more bargaining power than the FM
  ii. LBB Teams' services will not by offered at a low price.
- Large 3PL+ players with worldwide presence
  i. Often offer comparable 'supply chain solutions'
  ii. Have an integrated network
  iii. High brand awareness (i.e. DHL, DKSH)
  iv. Have employees from multicultural backgrounds
- Risk sharing
  i. LBB Teams can and will not take financial ownership of its clients products
- Negative association Islam (in Europe)
  i. Companies might not want to get involved in Halal products and/or do not want all their products 'Halal stamped'
- Economic turmoil
  i. Slow down in economic activity in Europe might results in risk reducing behaviour of companies, so they might be reluctant to outsource and or spend money on consulting
  ii. Rising food prices / high exchange rate Euro create higher pressure on margins FMs and create even more cost awareness
- Reluctant to outsource
  i. When companies do not see the added value of letting LBB Teams facilitate certain SCM processes this can be considered a serious threat to the proposed service
  ii. Dutch companies in the food and stimulants industry are recognized for for their innovative logistical partnerships.
- Required strength of execution / Operating as a 4PL requires extensive IT-skills and management capabilities

APPENDIX I
*Initial customer satisfaction iceberg (before concept testing)*

a. Service definition

LBB Teams provides Supply Chain Management Solutions. It develops, improves and manages food ingredient manufacturers (FM) supply chains in Asia as an extension of their client's organisation.

- For European or Asian FM already physically present in Asia;
- For European FM physically not present in Asia;
- For Asian companies.

b. Information reassurance: communication towards customers

- Sales meetings with members of LBB Teams in Europe
- Sales meetings with members of LBB Teams in Asia
- Office facilities LBB Teams in The Hague, Kuala Lumpur and Bangkok
- Membership LBB Teams of leading councils in Malaysia (i.e. Malaysian Dutch Business Council (MDBC) and Malaysian-German Chamber Of Commerce & Industry (MGCC) etc)
- Publication of articles by members of LBB Teams (in magazines)
- Presence at key events in Europe as well as Asia
- LBB TEAMS' website
- LBB TEAMS' brochure

c. Convenience: making things easier for the customer

- Physical presence in Europe as well as Asia
    - Representation of customer's company by members of LBB Teams in both Europe as well as Asia
    - Conducting business in the multiple languages (i.e. Dutch, German, English, Malay) in Malaysia
    - Awareness of European as well as Asian culture
    - Same time zone as Asia
- Non-standardized service offering (customization to individual customer needs)
    - Extensive service portfolio
    - High flexibility in operations (i.e. fast decision making, acting on changing circumstances, not burdened by fixed assets)
    - Independent in partner selection; i.e. not restricted to selecting certain partners
    - LBB Teams operates by representing non-conflicting products only.
- Easy accessible business model
    - LBB Teams operates as an integral part of its clients IT systems
    - Low entry and exit costs (i.e. low travel costs, no expatriate salaries, low cost facilities and low fixed assets in Asia)
    - Establishment of one point of contact for customer's Asia operations
    - Equal partner; LBB TEAMS' extensive research background and knowledge on its prospective customer's supply chain and product specifications allows LBB Teams to operate as an equal partner and offer a correct, consistent, clear and complete solution

d. Service: facilities that support the purchase & use of the service
- Before purchase: Business Development of LBB Teams in Europe and Asia
    - Information on benefits LBB Teams' model
    - Intake assessment (quantifiable feasibility study)
- During purchase
    - Training members LBB Teams on client's organisation
    - Supply chain management & improvement
- After purchase:
    - Performance report
    - Evaluation of 4PL model; including recommendation on how to proceed
    - Once optimized SCM can be transferred back to clients' own organisation

e. Delivery: the process of agreeing to cooperate towards delivery
- Intake assessment & proposal: 4 – 8 weeks
    - Assess Benefits
    - Risk Assessment
    - Determine exact operating model
- Preparation of operations: 2 months
    - Familiarization of LBB's team with client's company
    - Training of LBB's team on client's ICT system
    - Acquiring necessary facilities in Asia
    - ICT Installation at LBB Teams
- Operations: 3 years (+ 2 years optional)
    - Hand-over (1 month)
    - Stabilise (3 months)
    - Growth (32 months)

f. Choice: Supply chain management and improvement in Asia
- Purchasing in Asia
    - Facilities purchasing
    - Raw materials purchasing
- Physical distribution management (logistics) in Asia
    - Management of the flow of goods, information and other resources between the food (ingredient) manufacturer in Europe to the point of consumption in Asia.
- Marketing & sales:
    - Developing new markets in Asia
    - Sales coordination, i.e. distributor relation management and controlling of agents
    - Promotion of company in Asia, i.e. representation on key events, development of customized marketing material and/or website for Asia
- Production in Asia
    - Value added logistics (i.e. labelling, packaging)
    - Outsourcing of production
- Consulting & Research
    - Consulting
        - § Performance improvement programs (i.e. in order to increase supply chain efficiency and effectiveness, improving supply chain integrity)

        - Feasibility studies (i.e. determining viability of establishing production location, CODP, sales office etc, in Asia)
    - Research
        - Market studies: sales forecasting, gaining better understanding of customer's desires etc.
        - Competitive intelligence: researching, analyzing and formulating data and information from the entire competitive environment in Asia.
- Finance
    - Accounting of Asia operations

g. Operational context: services applied to the context of food ingredients

- Cost advantage of operating in Asia: favourable investment climate and tax environment, low price, low operating, labour and assets costs, decreased transportation costs
- Labour market: large labour pool of skilled employees
- Establishing presence to large & growing market: young population with increasing purchasing power, changing eating habits
- Halal compliant organisation of logistics and SCM
    - Large market for 'Halal' products in Asia due to Muslim population and awareness of food safety
    - Cost advantage by tax incentives and exemption from import duties in Malaysia which are established to promote the Halal industry
- Quality control and counselling:
    - Lab services (i.e. testing of products in Asia)
    - Auditing suppliers and/or agents
    - Advice on packaging, transport etc in Asia
    - Assistance with Halal (logistics), veterinary and health certification
    - Crisis management in Asia
    - Advising and training client's customers in Asia on how to use the products

h. Financing: terms of payment

Terms of payment:

- 3 months retainer in advance in order to cover fixed expenses
- Quarterly performance bonus; payment within two weeks

i. Price: Fair price level in accordance with perceived service benefits.

Premium service

- Which is high value adding through consultative approach
- Monthly costs for operations + quarterly bonus (based on targets realized)

Cost control by LBB Teams

- Low cost of operations

APPENDIX J
*Concept Testing by interviews*

This appendix presents the results of concept testing. Results are presented per element of the customer satisfaction iceberg. In the second column one finds the questions posed as well as the possible answers. The last four columns depict the answers provided by the respondents.

| | | | | | |
|---|---|---|---|---|---|
| Information / Reassurance | I. By which communication channels does the respondent want to be informed about the service offering? | FIM | FM | FM | FM |
| | Do not contact / in case of need company will contact LSPs and/or tender | | 1 | | |
| | Internet: make sure you're on top of the list when googling for LSP / good website | | 1 | | |
| | Fairs / networking events | 1 | 1 | 1 | |
| | Introduction by telephone or e-mail | 1 | | 1 | 1 |
| | | | | | |
| | Follow-up: | | | | 1 |
| | E-mail with extensive presentation on benefits | | | | 1 |
| | Meeting with detailed presentation on benefits | 1 | | 1 | 1 |
| | | | | | |
| | Remarks: | | | In reality the internal network provides many potential candidates / contacts | |

| | | | | | |
|---|---|---|---|---|---|
| Convenience | II. Per main aspect, which sub-aspects does the respondent consider to be most important (ranking: 4 = most important, 1=least important)? | | | | |
| | 1. Physical presence in Europe as well as Euro-Asian team in Asia | | | | |
| | Representation of customer's company by members of LBB TEAMS in both Europe as well as Asia | 1 | 4 | 4 | 4 |
| | Conducting business in the multiple languages (i.e. Dutch, German, English, Malay) in Malaysia | 2 | 2 | 3 | 3 |
| | Awareness of European as well as Asian culture | 4 | 1 | 1 | 2 |
| | Same time zone as Asia | 3 | 3 | 2 | 1 |
| | 2. Non-standardized service offering (customization to individual customer needs) | | | | |
| | Extensive service portfolio | 2 | 2 | 4 | 3 |
| | High flexibility in operations (i.e. fast decision making, acting on changing circumstances, not burdened by fixed assets) | 4 | 4 | 3 | 4 |
| | Independent in partner selection; i.e. not restricted to selecting certain partners | 3 | 3 | 2 | 2 |
| | LBB TEAMS operates by representing non-conflicting products only | 1 | 1 | 1 | 1 |
| | 3. Easy accessible business model | | | | |
| | LBB Teams operates as an integral part of its clients IT systems | 3 | 2 | 3 | 4 |
| | Low entry and exit costs (i.e. low travel costs, no expatriate salaries, low cost facilities and low fixed assets in Asia) | 4 | 4 | 2 | 2 |
| | Establishment of one point of contact for | 1 | 1 | 1 | 3 |

| | | | | | |
|---|---|---|---|---|---|
| | customer's Asia operations | | | | |
| | Equal partner; LBB TEAMS' extensive research background and knowledge on its prospective customer's supply chain and product specifications allows LBB Teams to operate as an equal partner and offer a correct, consistent, clear and complete solution | 2 | 3 | 4 | 1 |
| | 4. Which main aspects of 'convenience' finds the respondent most important (ranking)? | | | | |
| | Physical presence in Europe as well as Euro-Asian team in Asia | 2 | 1 | 3 | 3 |
| | Non-standardized service offering (customization to individual customer needs) | 3 | 2 | 1 | 1 |
| | Easy accessible business model (low entry and exit costs) | 1 | 3 | 2 | 2 |
| | | | | | |
| | Additional remarks | 1. In the EU companies are often focused on efficiency. In Asia, more flexibility is provided for service provider | 1. Possibility of Malay employees provides advantage of better acceptance/highly effective | 1. Representation: physical presence | 1. local presence is very important |

| | | | | | |
|---|---|---|---|---|---|
| | | 2 ‘extensive service portfolio’ and ‘independent partner selection’ are linked to each other. Possible because of independence LBB | 2. Non-conflicting products: low risk of conflict situations within dairy production. | 3. Low costs: long term savings are more important than short term profit.<br>Advantage has to be depicted clearly and should be in proportion to the investment. | 1. c and d are close in terms of low priority |
| | | 2. Because of the ever changing market is important to act fast and create one point of contact as soon as possible | 3. IT systems: this is however a unique selling point! | | 2. High flexibility is important for retail in Europe |
| | | | 4. Easy accessible business model: reduces barrier to give it a try | | 2. Independent partner selection: only if subcontractor lives up to quality standards |

| | | | | | |
|---|---|---|---|---|---|
| | | | 4. Non-standardized service: track & trace is desired | | 2. non-conflicting products: synergy in logistics is found to be beneficial because it is more cost efficient |
| | | | 4. Physical presence: representation in Europe as well as Asia is however desired | | 3. Equal partner: knowledge will not be shared to large extent with LSP |
| | | | | | 4. Physical presence in Asia is absolute necessity |
| | | | | | 4. Easy accessible business model: necessary condition in order to conduct |

| | | | | | |
|---|---|---|---|---|---|
| Service | III. There are certain services LBB Teams offers before, during and after purchase. | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | What is the respondent's opinion on the relevance of the different service aspects? | | | | |
| | Before purchase: Business Development of LBB Teams in Europe and Asia | | | | Add: conceptual explanation of advantages compared to traditional LSPs. Create understanding and acceptance. Risk of violating existing relationships will keep the organisation from accepting these new services. |
| | *Information on benefits LBB Teams' model* | Add: 'costs' | create elevator pitch / portfolio | | |
| | *Intake assessment (feasibility study)* | | make very clear how perceived advantages will be achieved | very important | |
| | During purchase | | | | Depends on how many responsibilities are provided to LBB Teams. Training is very important. Also the way responsibilities are divided. |
| | *Training members LBB Teams on client's organisation* | | | | |
| | *Supply chain management &* | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | *improvement* | | | | |
| | | Add 'performance report on regular basis' | Pro activeness of LSP regarding improvement is very important | | |
| | | Add 'quarterly basis review meeting with senior members of supply chain' | | | |
| | | Add 'suitable contact persons on both sides empowered to make decisions' | | | |
| | After purchase | | | | |
| | *Performance report* | should be moved to 'during purchase' | should be moved to 'during purchase' | determine exact responsibilities; i.e. who reports? To whom? | during purchase KPI's need to be formulated in the contract |

| | | | | | |
|---|---|---|---|---|---|
| | *Evaluation of 4PL model; including recommendation on how to proceed* | should also be done on a regular basis during contract period | | | |
| | *Once optimized SCM can be transferred back to clients' own organisation* | If this is not provided, this should be a barrier towards doing business. | once outsourced you will not opt to take back processes in-house | it is a good idea to provide this option | |

| | | | | | |
|---|---|---|---|---|---|
| Delivery | IV. What is the right period of time for the following elements of LBB Teams service, existing out of the mentioned sub-elements? | | | | |
| | Intake assessment & proposal | depends on size of operations / speed is important | 2 weeks to 2 months | depends on wishes and costs involved / 3PL selection often takes a couple of months | - |
| | Preparation of operations | depends on size of operations / speed is important | this will take about 2 times as long as intake assessment & proposal | depends on wishes and costs involved | - |

| | | | | | |
|---|---|---|---|---|---|
| | Operations | depends on size of operations / speed is important | | depends on wishes of Nestlé and the costs involved | - |
| | Does the respondent want to add items/elements to this list? | | | | |
| | Intake assessment & proposal | | | - | - |
| | *Assess Benefits* | | | | |
| | *Risk Assessment* | | | | |
| | *Determine exact operating model* | change to 'determine exact service levels + cost' | | | |
| | Preparation of operations | - | customers need to be visited in EU/Asia, IT systems need to be installed; | - | - |
| | *Familiarization of LBB's team with client's company* | | Think about the way you'll do this. I.e. how do you make sure work agreements are being transferred? | | |
| | *Training of LBB's team on client's ICT system* | | | | |
| | *Acquiring necessary facilities in Asia* | | | | |
| | *ICT Installation at LBB TEAMS* | | | | |
| | Operations | - | | - | - |

| | | | | | |
|---|---|---|---|---|---|
| | *Hand-over* | | handover is end point of preparations | | |
| | *Stabilise* | | | | |
| | *Growth* | | sourcing back should take about half the time of installation | | |

| | | | | | |
|---|---|---|---|---|---|
| Choice | V. Which elements of 'choice' are critical for success (ranking, 7 = most important, 1 = least important)? | | | | |
| | Purchasing in Asia | 3 | 3 | 5 | 1 |
| | Physical distribution management (logistics) in Asia | 7 | 2 | 7 | 7 |
| | Marketing & sales (operational) | 2 | 4 | 1 | 3 |
| | Production in Asia | 5 | 7 | 4 | 5 |
| | Consulting | 6 | 7 | 7 | 6 |
| | Research (analyses) | 4 | 5 | 2 | 4 |
| | Finance | 1 | 2 | 4 | 2 |
| | | | | | |
| | Additional remarks | Production in Asia: value adding logistics is important, outsourcing of production is not! | Production in Asia: creates advantage regarding import duties etc | Consulting / Physical distribution: here sees Nestlé added value of service provider | Production in Asia: only VAL is important! Not outsourcing of production! |

| | | | | | |
|---|---|---|---|---|---|
| | | | Consulting: this will be added value of LBB | Purchasing: needs to be conducted on a global level, so important! | Finance: perhaps only making invoices might be an option |
| | | | Purchasing & Logistics: there are already a lot of service providers for these services | Production in Asia: is not relevant for respondent | Purchasing in Asia: this is a CSF in order to gain comp.advantage. Will not be out sourced. |
| | | | Marketing & sales: have to be adapted to local market and culture | Finance / marketing & sales: won't be outsourced | |
| | | | | Research: is conducted by BU in Asia, so LBB should offer its services to Asian BU | |

| | | | | | |
|---|---|---|---|---|---|
| Context | VI. How important (on a scale of 1 to 5) does the respondent consider the different elements of the purchase/use context (ranking: 5 = most important, 1 = least important) | | | | |
| | Cost advantage | 5 | 5 | 4 | 4 |
| | Production in Asia | 3 | 4 | 1 | 1 |
| | Establishing presence to large & growing market | 4 | 3 | 2 | 3 |
| | Halal compliant organisation of logistics and SCM | 2 | 2 | 5 | 2 |
| | Quality control and counselling | 1 | 1 | 3 | 5 |
| | | | | | |
| | Additional remarks | Production in Asia: company has own production plants in Asia / keep management in-house because of copycatting | | Halal: knowledge should be at own company in Netherlands, not at LSP | Halal: is also very important in Europe and Middle East |
| | | Halal compliant organisation of supply chains: can be managed anywhere in the world | | Production: not relevant | Production: important for fresh products, not for milk powder |
| | | | | | |

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|---|---|---|---|---|---|
| Financing | Under which terms of payment is the respondent willing to cooperate? | 90 days | 60 - 90 days | 60 days | 60 – 90 |
| | Additional remarks | Open for discussion, but then financial compensation | DELL is an example for respondent / in case of discount when LBB wants to generate fast cash flow possible agreement | Company aims to keep its work capital as low as possible | Company won't finance a business to offer its service. Service provider needs to be financially healthy. |

| | | | | | |
|---|---|---|---|---|---|
| Price | What does the respondent consider to be a fair price for the quarterly performance bonus? | Profit but also risk sharing | 10%, but depends on perceived benefit / in case of excellent performance bonus can go up | 10%, depending on perceived benefit / in case of excellent performance bonus can go up | Desirable is paying per transaction / another option is invoicing based on fixed + variable expenses. |
| | What are the requirements in order to obtain the performance bonus? | Minimum standard / in case of better achievement higher percentage of profit | Compare costs not outsourced vs costs of outsourcing. Determine percentage LBB can reduce costs / i.e. bonus based on (1) backorders reduced (2) percentage of products out of date. Optional: bonus/malus agreement (risk sharing) | | Performance bonus might stimulate short term thinking and handling. In this case, where the performance target constitutes of adequate service levels, bonus might be an option. But this should involve risk sharing as well. |

| | | | | | |
|---|---|---|---|---|---|
| Conclusion | Which component of the CVP is considered most important and which least important for success? | | | | |
| | Information / reassurance | 1 | 7 | 5 | 5 |
| | Convenience | 6 | 6 | 7 | 6 |
| | Service | 7 | 6 | 8 | 7 |
| | Delivery | 5 | 3 | 2 | 8 |
| | Choice | 4 | 2 | 4 | 3 |
| | Context | 1 | 4 | 6 | 4 |
| | Financing | 1 | 1 | 1 | 2 |
| | Price | 8 | 8 | 3 | 1 |
| | Additional remarks: | | | | Delivery: good contact is main priority |
| | Additional remarks | | Price: generates incentive whether or not to conduct business | Internal network is important when deciding on service providers | proposed service offering is relatively new to respondent |

REFERENCES


- A.T. Kearney Global Services Location Index, 2007
- Abell, D.F. (1993) Managing with dual Strategies: mastering the present, pre-empting the future. The Free Press.
- Austrade.gov.au (June 2008)
- Babbie, E. (2007). *The Practice of Social Research*. Thomson Wadsworth, 11th edition.
- Bakeryandsnacks.com (June 2008) http://www.bakeryandsnacks.com/news/ng.asp?id=81630
- Ball, D., McCulloch, W., Geringer, J.M., Minor, M., and McNett, J. (2007) *International Business; the challenge of global competition*. McGraw-Hill, 11th edition.
- Barney, J.B. (1991) Firm resources and sustained competitive advantage. Journal of Management 17 (1) 99-120.
- Bolumole, Y.A., Frankel, R., Naslund, D. (....) Developing a theoretical framework for logistics outsourcing. Transportation Journal, Spring ...
- Canadian Industry Statistics (April, 2007) http://www.ic.gc.ca/canadian_industry_statistics/cis.nsf/IDE/cis311defe.html
- Capgemini (2006) Overcoming the margin squeeze.
- Capgemini and Langley, J.C. (2004) Logistics Outsourcing is an important driver of top line growth and corporate strategy, according to new global study, FedEx, Philadelphia.
- Capgemini (2008), Logistics Map of Asia Pacific.
- Cavusgil, S.T., Ghauri, P.N., Agarwal, M.R. (2002). Doing business in emerging markets. Entry and negotiation strategies. SAGE Publications, Londen.
- CBS Industriemonitor (10 April 2008) http://www.cbs.nl/nl-NL/menu/themas/industrie-energie/publicaties/industriemonitor/realisaties/archief/2008/2008-04-10-r-vi.htm.
- Chopra, S., Meindl, P., 2004. Supply Chain Management: Strategy, Planning and Operations, second ed. Prentice Hall, Upper Saddle River, NJ.
- Cooper, D.R. and Schindler, P.S. (2008) Business Research Methods, McGrawHill.
- Cooper, M. C., Lambert, D. M., and Pagh, J. D. (1997) Supply Chain Management: More Than a New Name for Logistics. The International Journal of Logistics Management 8(1), 1–13.
- Council of Logistics Management (March 2008) http://www.CLM1.org.
- Craig, T. (2003) 4PL versus 3PL-A business process outsourcing option for international supply chain management. World wide shipping. Http://www.ltdmgmt.com/mag/4pl.htm.
- Daft, R. (2008) New Era of Management. Thomson South-Western, second edition.
- EVD (May 2007) Made in Holland, Food & Nutrition, Dutch Ministry of Foreign Affairs.
- Export.gov (8 January 2009) http://www.export.gov/china/exporting_to_china/RepOffice.pdf
- Eyefortransport (2006b) European 3PL Market Report, Eyefortransport.com, Brussels, Belgium.
- Fao.org (June 2008)
- Fernández, E., Montes, J. M., Vázquez, C. J. (2000). Typology and strategic analysis of intangible resources. A resource-based approach. University of Oviedo, Department of Business Administration and Accountancy, Faculty of Economics, Oviedo, Spain.
- Financiële Dagblad Outlook (22 September 2008), by www.mdweekly.nl (1 October 2008) Uitbesteden wordt een `way of life`

- Fischer, M.L. (1997), What is the right supply chain for your product?, Harvard Business Review, March – April.
- Fitzpatrick, L. (1996) Qualitative concept testing tells us what we don't know. Marketing news, September 23.
- Fitzsimmons, J.A., Fitzsimmons, M.J. (Eds.), New Service Development—Creating Memorable Experiences. Sage Publications, Thousand Oaks.
- FNV Bondgenoten (May 2008) http://www.fnvbondgenoten.nl/branches_bedrijven/branches/industrie/voedingsindustrie.
- Forbes, meeting the halal test (16 April 2007) vol. 179 issue 8
- Foodguru, Trends in de voedingsmiddelenketen (20 March 2008) http://www.foodguru.nl/Management/StrategieenTrends/tabid/1417/Default.aspx
- Frost and Sullivan (June, 2008) http://www.frost.com/prod/servlet/market-insight-top.pag?docid=8341069
- Goor, van, A.R., Ploos van Amstel, M.J. en Ploos van Amstel W. (2002) Fysieke distributie: denken in toegevoegde waarde. Vierde druk, Stenfert Kroese, Leiden/Antwerpen.
- Grix, J. (2004). The foundations of research. Palgrave Macmillan.
- Gunasekaran, A., Patel, C. and McGaughey, R. (2004), "A framework for supply chain performance measurement", International Journal of Production Economics, Vol. 87 No. 3, pp. 333-47.
- Halaljournal.com (12 September 2008) http://www.halaljournal.com/artman/publish_php/article_861.php
- Halvey, J.K., Murphy Melby, B. (2007). Business Process Outsourcing – Process, Strategies and Contracts. Second edition.
- Heizer, J., and Render, B. (2008). Operations Management, Prentice Hall, Ninth edition.
- Hodges, M. and Block, D. (2005) Business Process Outsourcing: Current Trends and Best Practices. Contract Management, January.
- IGD, Food and Grocery Information, Insight & Best Practice (20 March 2008) http://www.igd.com/cir.asp?menuid=50&cirid=1505
- IMF, Emerging Markets (31 March 2008) http://www.imf.org/external/np/exr/key/emkts.htm
- Johnson, Scholes and Whittington (2008) Exploring corporate strategy
- Johnson, S.P., Menor, L.J., Roth, A.V., Chase, R.B. (2000). A critical evaluation of the new service development process: integrating service innovation and service design. In: Fitzsimmons, J.A., Fitzsimmons, M.J. (Eds.), New Service Development—Creating Memorable Experiences. Sage Publications, Thousand Oaks, CA, pp. 1–32.
- Kvale, S. (1996). Interviews: an introduction to qualitative research interviewing. Sage Publications.
- Larson, P.D., and Halldorsson, A. (2002) What is SCM? And, where is it? *The Journal of Supply Chain Management: A Global Review of Purchasing and Supply.* Institute for Supply Management.
- Lambert, D.M. and Stock, J.R. (2001). *Strategic Logistics Management*. McGraw-Hill Irwin, Boston, 4th edition.
- Lovelock, C., and Wirtz, J. (2007). Macro trends in the global economy: the role of B2B services, Frontiers in services 2007 conference, San Francisco, 4-7 Oct 2007, http://www.slideshare.net/sanjay_jhaa/macro-trends-in-global-economy, 16 September 2008.
- Lowtax.net (June 2008)
- Meixell, M.J., Gargeya, V.B. (2005). Transportation Research Part E 41, 531–550.
- Moore, William L. (1982). Concept Testing. Journal of Business Research 10, 279-294

- Moorst, A. van, en Wel, P. van (2006). Strategische sourcing, offshoring, nearshoring en bestshoring. Outsource Magazine.
- Ploos van Amstel, W., and Van Goor, A.R. (2001) Van logistiek naar supply chain management, Kluwer.
- Ploos van Amstel, W. (2005) Outsourcing van logistiek. De weg naar het perfecte huwelijk. ManagementSite.nl, 31 March 2008.
- Porter, M. (1985) Competitive Advantage: creating and sustaining superior performance. The Free Press.
- Regmi, A., Deepak, M.S., Seale, J.L., Bernstein, J. (....) Cross-country analysis of food consumption patterns. *Changing Structure of Global Food Consumption and Trade / WRS-01-1, Economic Research Service/ USDA.*
- Rushton, A. and Walker, S. (2007) International logistics and supply chain outsourcing: from local to global. Kogan Page, London.
- Sandén, B. (2007) The customer's role in new service development. Faculty of Economic Sciences, Communication and IT Business Administration, University of Karlstad.
- Saunders, M., Lewis, P., and Thornhill, A. (2007). *Research Methods for Business Students*. Prentice Hall, 4th edition.
- Stadtler, H. (2008) Supply Chain Management – An Overview. Supply Chain Management and advanced planning, Springer Berlin Heidelberg, p. 9-36.
- Storey, C., Easingwood, C.J. (1999). Types of new product performance: evidence from the consumer financial sector. Journal of Business Research 46, 193–203.
- Thomson, B. (2004). Qualitative Research: Grounded Theory - Sample Size and Validity. The Monash University, Faculty of Business and Commerce, Department of Management, Australia.
- Tieman, M. (2007). Halal Logistics Orchestrating Model. Halal Journal, July 2007.
- Transparency.org, Global Corruption Report 2008, http://www.transparency.org/publications/publications (25 January 2009).
- Trkman, P., Štemberger, M.I., Jaklič, J., Groznik, A. (2007). Process approach to supply chain integration. Supply Chain Management – An International Journal 12/2, 116-128.
- Van de Vorst, J.G.A.J. (2000). Effective Food Supply Chains. Generating, modeling and evaluating supply chain scenarios. PhD, Wageningen University.
- Van de Vorst, J.G.A.J. (2006). Performance measurement in Supply Chain Networks.
- Wang, E.T.G., Tai, J.C.F., Wei, H. (2006). A Virtual Integration Theory of Improved Supply-Chain Performance. Journal of Management Information Systems / Fall, Vol. 23, No. 2, pp. 41–64.
- World Economic Forum, Global Risks 2009 (3 February 2009) http://www.weforum.org/pdf/globalrisk/globalrisks09/the_financial.htm